INVITATION TO EDUCATIONAL PLANNING

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To my parents

PREFACE

The purpose of this book is to provide a clear and simple introduction to the theories, concepts and methodologies of educational planning in the context of developing countries of Asia-Pacific region. Educational planning as practised to date has played a significant role in the process of social and economic development of nations. Thus whether a country is socialist or capitalist, poor or rich the human capital approach towards qualified manpower equally applies. Resources that are devoted to education in turn produce human capital in the form of higher skill level which is likely to yield future returns in the form of increased productivity of the skilled workers. Citing empirical evidence from both developed and developing countries as well as inter-country comparisons which demonstrate close link between education and development, it is argued in this book that such evidence can be used as useful guide in the decision making process. However, issues such as educational targets, priorities and quantitative and qualitative expansion of the system will need to conform to the overall national development plan and therefore within available resources. It has been further argued that educational plans at tertiary and higher level should be linked to employment opportunities. The planning of education is seen as an inter-disciplinary effort and a continuous process, having adequate flexibility and scope for evaluation and revision. In order to be effective educational plan should not only be technically sound and approved by the political authority but it has to command popular support.

This book is divided into eight chapters. Chapter 1 analyses the correlationship between education and development and its implications for the planner. In Chapter 2 we have discussed the three approaches to educational planning—the Social demand approach, the Manpower requirements approach and the Rate of return approach as well as the planning models. We have examined their usefulness in the context of developing regions and concluded that instead of a single-minded approach a combination of approaches would be more suitable for planning the development of education. Chapter 3 presents the various aspects and criteria of target setting in educational planning. It cautions the planner to be more realistic and rational in fixing the targets by maintaining a proper balance between desirability and feasibility of the educational targets. One of the most intriguing issues for the planner in developing countries is to decide which types and levels of education should get priority over others. This and the matter of competing claims of quality and quantity in educational programme have been discussed in Chapter 4. The importance and usefulness as well as the methodology of collecting statistical data are the subject of Chapter 5. The educational planner must be careful in interpreting and using the statistical data which are sometimes either inadequate or unreliable and thus can be misleading, or in some areas there may even be a complete lack of relevant data. Chapter 6 discusses the importance of cost analysis as an important tool to help analyse and solve many problems in the educational plan. Chapter 7 presents a model of successive stages involved in the planning process. In many developing countries, apart from the dearth of scarce resources and technical knowledge, political and administrative factors often create serious constraints on the successful implementation of educational plans. The planner therefore has a difficult task in seeking to resolve these problems. Chapter 8 highlights this issue.

In writing this book, I have drawn heavily on the specialised knowledge of many scholars. Appropriate references have been made in the text as well as in bibliography. I have also been immensely benefited by helpful comments, criticisms and suggestions made by Professor Ralph Ruddock and Professor Tim Simkins who read an earlier draft and subsequently by Mr Shahabuddin Mahtab, Dr C K Basu, Mr Mahmood Aminul

Islam and Dr J R Huntington. Mr Mohiuddin Ahmed of University Press Limited took great interest to produce the book in a very short period of time.

Having said this, I must state that I am alone responsible for all the shortcomings and errors that may be detected in the book.

Dhaka, August 1986 *S A Chowdhury*

INTRODUCTION

Ever since macro-economic planning became a popular tool of development in less developed countries the importance of educas tional planning was increasingly felt. A macro-plan embrace- several development programmes depending on the level of public interventions envisaged during the plan period[1]. To this extent development programmes and projects demonstrate a strong sectoral orientation. Since most governments in developing countries as well as the large donor agencies are organized sectorally, programmes and projects are dominated by sectoral values and technologies.

In most ministries of education, planning units of various size have been established to undertake the work of educational planning within the parameters of national development plan. At the same time for the past two decades considerable advancement has been made in the field of educational planning. Many analytical tools and techniques as well as models have been developed to aid the educational planner. Planning the development of a educational system is a complex business ; it is necessary to take into account not only the funds likely to be available both in the coming year and for several years thereafter, but also the comparative costs and effectiveness of different typesof education, the rate at which different types of facilities can be constructed, and the possibilities for the development and production of text books and equipment; the numbers of teachers with different levels of qualification and training available and the rate at which more could be trained ; the number of qualified students expected to enter different levels and types of education in the next few years; the comparative dropout and failure rates of different levels and types of education; and a host of other factors affecting the feasibility and costs of expanding and improving different parts of the system.

---

[1] The basic philosophy of development planners has been summarized by G. Myrdal; "The basic principle in the ideology of economic planning is that the state shall take an active, indeed, the decisive role in the economy; by its own acts of investment and interprise, and by its various controls— inducements and restriction over— the private sector the state shall initiate, spur and steer economic development . . . [policies] would thus be [rationally] coordinated, and the coordination [made] explicit in an overall plan for a number of years ahead." See G. Myrdal, *An Approach to the Asian Drama: Methodological and Theoretical* (New York: Vintage Books, 1970).

An attempt has been made in this book to examine some of the important analytical tools and methods of educational planning and to relate them in popular terms using illustrations and data from Asia Pacific region.

This book is primarily addressed to young and midlevel educational professionals but others interested in the subject may also find it useful. A major theme of this book is to say that educational planning is not an isolated event; in order to be effective it must be related to the overall national plan, and that it must be able to express and achieve the aspirations of a developing nation. The growing awareness about the contribution of education to the process of economic and social development has become increasingly evident. The pace of economic and social development is seen as depending upon the amount and quality of education (both formal and nonformal) embodied in the population. Where population growth is rapid and education has become a major political issue, expenditure on education is bound to rise in any case. It is therefore imperative that the rise shall be a part of an orderly planning process rather than as a result of an irrational political or financial decision.

There is in fact no virtue in devoting a large part of total resources to education if this education does not fit the needs or the conditions of the country and if a large part of the increased resources is wasted. Planners therefore have to decide what portions of development and recurrent budgets to allocate to the education sector. Resources earmarked for this must be portioned into those available for the formal education system and those allocated to training programmes and more informal processes of education as well as for each stage and level of the education system.

Competing demands for those funds arise even within the primary school subsector, and decisions must therefore be made among such uses as teachers' salaries, buildings, equipment and text books. Educators for their part may urge increased investment and operating budgets for education, but they surely will get less than is required to improve quality, extend coverage, and reorient the content of education. There is a consensus of opinion among planners in the developing countries that educational planning must be linked with employment possibilities and should accompany measure aimed at economic and social development. Thus while primary education will be governed largely by demographic growth (with regard to the available resources) secondary and higher education should be planned as far as practicable on the basis of the qualification structure that the country is likely to require in the future, keeping of course, adequate flexibility and scope for substitution.

Calculating the demand for skills will give the minimum number who should be trained if the demand substantially exceeds the number of skilled persons likely to be produced, but ceases to help when the number of places has caught up, as happens easily in respect of general education. Since the continual upgrading of the requirements for jobs is one of the more important reasons why productivity increases, one should always train more skills than current estimates of demand would indicate. However, most developing countries are passing through a stage where the number demanding education exceeds the foreseeable number of jobs, and the problem is how far to go in satisfying this demand. The educational planner has no control over the creation of jobs but he can certainly remind the government that economic development is not the only purpose of education and that education is valuable for its own sake ; but then each government must set its own pace, having regard to how much opportunity for education is going to be provided for its people and how much increase in resources it is willing to devote for the purpose.

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CHAPTER 1

THE CORRELATION BETWEEN EDUCATION AND DEVELOPMENT

A major intriguing question and perhaps largely unexplained phenomenon before the educational planner is whether there is a systematic relationship between a country's educational attainment and the level of its GNP. Since expenditures on education are expected to increase income, questions arise as to the nature of this relationship. Will a nation which devotes a relatively large share of its resources to educating its labour force obtain relatively higher levels of GNP? Does the same relationship hold good among industries and firms?

Simple correlation analysis is applied to establish these relationships, either cross-sectionally or over time.

Perhaps the easiest correlation to envisage is the one expected between education expenditure and GNP over time. Shultz and Harris[1] have attempted correlations of this kind for the United States. Their hypothesis, that levels of expenditures on education are related to levels of GNP in the same year, has come under attack by Bowen[2]. He argues that education is a long lived asset; the recipient of education earns (or contributes) a higher income for most of the rest of his life. Thus the economic effect of an increase in educational expenditure should not be sought in the year of its disbursement.

Again the level of GNP ten years from now is seen to depend partly on educational expenditures incurred last year, partly on those made this year and partly on next year's expenditures. In other words, the level of GNP in a given year depends upon the total stock of educated persons in that year.

There is a difference of opinion as to the inter temporal quality of education. Denison[3] concluded that in U.S.A. a graduate of eighth grade today is equivalent to a 1910 college graduate. On the other hand Machlup[4] contends that the quality of a given grade deteriorates with the dilution of the quality of students brought about by the drive towards universal education. Another inter-temporal study by John Vaizey[5] of costs of education in the United Kingdom disclosed that the shares in total expenditure of education remained constant for 1911, 1922, 1931 and 1951.

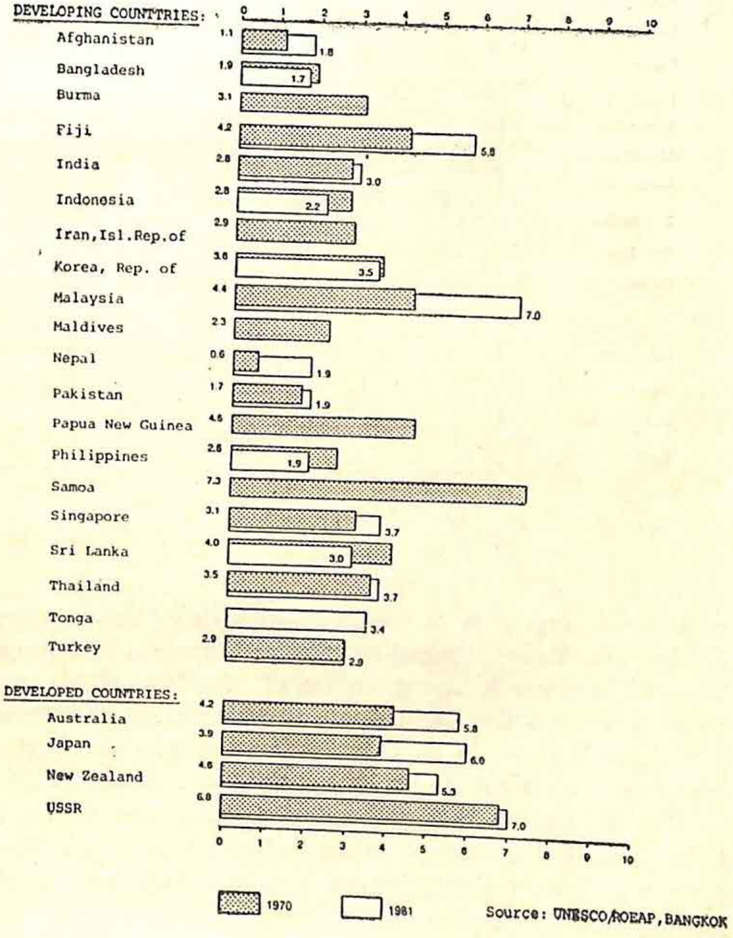
Another way to investigate the education-income relationship is to observe the differences among countries. Svennilson, Edding and Elvin[6] have attempted intercountry correlations between per capita GNP and enrolment rates. The latter are the number of students enrolled in particular grade or stage of education expressed as a percentage of all students whose age qualifies them for it.

Bowman and Anderson[7] made another interesting study in this field. They first divided the countries into three groups according to their index of energy potentials percapita. This was used as a proxy for productive potentials. Energy potentials are independent of past capital accumulation, the quality of labour and socio-economic attitudes and organization. For each group, GNP per capita was correlated in turn with each of the following variables : (1) the percentage of adults who are literate, (2) the percentage of population in post-primary school, and (3) the percentage of population, age 5-14 enrolled in primary school (primary enrolment rate). Despite all of this careful work, neither the work of Svennilson, Edding and Elvin nor the Bowman and Anderson study could produce very strong conclusions.

David McClelland[8] has attempted to use a dynamic approach to cross-country analysis which allows for the introduction of the time lag. He compares enrolment rates in one period with growth rates in a later period. Grouping the countries studied by an electric power index, in the manner of Bowman and Anderson, he observes that countries with higher university enrolment rates in 1950 achieved greater increases in per capita income during the 1950s. This differences allow him to calculate an annual rate of return on extra university education of 12 per cent. McClelland also observes that countires with higher secondary enrolment rates in 1930 grew more rapidly during the 1950s than countries with lower rates.

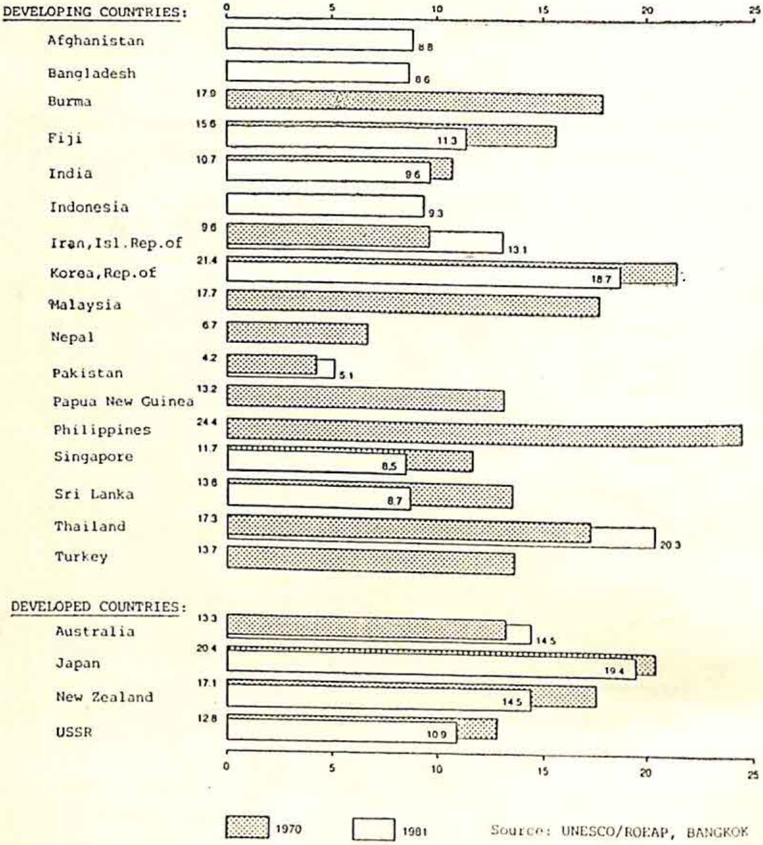
Inter-industry and inter-firm correlations also have been employed to determine the significance of education for economic development. The measures used have included the per-

Table 1.1: Total public expenditure on education as a percentage of the Gross National Product in Asia and the Pacific (24 countries)



Source: UNESCO/ROEAP, BANGKOK

Table 1.2: Total public expenditure on education as a percentage of total government expenditure in Asia and the Pacific (21 countries).



Source: UNESCO/ROEAP, BANGKOK

centage of employees at technical, supervisory or managerial levels with higher education, the percentage of employees engaged in research, and the ratios of scientists and engineers to technicians and other supporting personnel. Such comparisons have been made on cross-sectional bases with individual countries, over time, and between countries[9]. Although casual empiricism suggests that a correlation exists between profitability and the percentage of an industry's or firm's labour force who have training beyond the secondary level, further study is needed to establish any systematic relationship.

TABLE 1.3

Percentage distribution of current public expenditure by level of education (23 countries)

Country	Year	Pre-Primary	1st level		2nd level	3rd level	Other	Not distributed	Total
		(%)	(%)		(%)	(%)	(%)	(%)	(%)
Developing countries									
Afghanistan	1974	—	38.4		34.0	17.7	—	9.9	100
	1982	1.7	43.2		22.0	19.3	4.8	9.0	100
Bangladesh (1)	1975	—	57.0		16.5	17.4	9.1	—	100
	1981	—	44.2		29.4	23.4	0.1	2.9	100
Bhutan	1978	1.5	22.5		55.9	9.2	—	10.9	100
Burma	1975	—	←	87.7	→	10.7	0.1	1.5	100
	1977	—	←	87.1	→	10.6	—	2.3	100
Fiji	1975	—	43.0		41.6	6.7	0.1	8.8	100
	1981	—	53.0		45.1	1.9	—	—	100
India	1975	←	40.0 →		26.6	12.1	2.0	19.3	100
	1980	←	36.9 →		24.2	13.5	3.0	22.4	100
Iran, Islamic Republic of	1974	0.6	31.3		26.8	17.7	1.4	22.3	100
	1981	1.6	40.6		36.8	6.8	2.1	12.1	100
Korea, Republic of	1975	—	62.4		25.5	12.2	0.1	—	100
	1981	0.1	61.6		17.3	10.3	10.7	—	100
Malayasia	1982	—	33.6		34.1	14.1	0.1	18.1	100
Nepal (2)	1975	—	←	48.8	→	40.7	1.5	9.0	100
	1982	—	←	48.6	→	44.2	3.1	4.1	100
Pakistan	1975	—	41.1		30.3	17.2	0.1	11.5	100
	1981	—	38.9		32.6	19.7	0.0	8.8	100
Papua New Guinea	1976	←	33.1 →		23.8	35.7	0.8	6.6	100
Philippines	1976	—	65.7		6.7	22.4	0.1	5.3	100
	1982	—	61.0		12.1	22.1	—	4.8	100
Samoa	1975	—	65.2		18.8	—	3.4	12.6	100
	1978	—	60.6		24.6	—	1.6	13.2	100
Singapore	1975	—	38.1		34.3	17.6	6.3	3.7	100
	1982	—	34.3		34.4	26.4	1.7	3.2	100
Sri Lanka	1975	—	←	84.5	→	6.5	0.0	9.0	100
	1978	—	←	86.1	→	8.7	0.1	5.1	100

Source: UNESCO/ROEAP, BANGKOK

Implications for the planner

The correlation analysis are subject to two-way causation problems, for while it can be argued that countries which invest relatively more in education reap higher rates of growth of national income it can equally be argued that countries which have high levels or rates of growth of national income tend to consume more education. The co-efficient obtained by Shultz[10] indicates that expenditure on education in the United States grew 3.5 times as fast as income. The significance of this co-efficient may be that as people attain higher incomes, they tend to spend a larger portion of it on education. Or it could reveal how much extra education was necessary to attain a given increase in GNP.

The cross-country study of Svennilson, et al. may be found useful to the educational planners in developing countries when they will be able to look at their own educational programmes in the perspective of the experiences of other countries. Countries with the same per capita income and socio-economic characteristics can yield information on what levels of education may be possible on the one hand and necessary on the other. The current levels of education in more advanced countries can give planners in developing countries a general idea about future trends, and the experiences of these countries can also be instructive.

There is, however, a danger in regarding the levels of educational activity associated with advanced countries as norms. Wide differences between nations in the efficiency with which resources devoted to education are employed can easily occur; and since there are no satisfactory measures of efficiency, such differences are difficult to recognize and balance. Climate, geographical features, the type and abundance of natural resources in various countries may profoundly influence the proportion of national income that must be spent on education. Besides, in the past social premises and different social philosophies have impelled some nations to spend more on education than perhaps they might otherwise have done and perhaps more than was actually required.

These considerations imply that such inter-country comparisons should not be wholly relied upon by any one nation in determining what it should spend upon education. Inter firm and inter-industry correlations may be interesting and useful in the future, even if no definite measure of the contribution different types and levels of educated people make to firm or industries is possible. But such comparisons have merit only in the context of the individual circumstances and broader development plans of each developing country.

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10. Shultz, T.W., op. cit.

CHAPTER 2

ALTERNATIVE APPROACHES TO EDUCATIONAL PLANNING

Both because the resources are scarce and because the problems of developing an educational system are so complex, planners are becoming increasingly interested in techniques which will permit them to take the relevant factors into account systematically, and to make judgements as to how much of a country's scarce resources shall be allocated to education and training, as well as determining the relative emphasis to be placed on different levels and types of education. In response to this a body of literature has emerged providing the planner with a wide range of choice in the selection of a method for educational planning. Three major approaches are however in practice, although in reality a combination of two or even all three may be found useful. These are normally known as—social demand approach, manpower requirements approach and rate of return approach. We shall now discuss them in some detail and try to find their implications in the context of developing countries.

Social demand approach

The traditional and perhaps the least complicated approach to educational planning is the one which is based on the view of education as a right of the individual in a democratic society, regardless of his income or class. It stresses the need of the individual for education to develop his human potentialities. This is the social demand approach which, in other words, charges the educational authorities with providing schools and facilities for all students who demand admission or who are qualified to enter. The now classic example of the social-demand approach is the Robbins Report on Higher Education in Great Britain with its axiom that "courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so". Apart from the British, French and Canadian instances, the UNESCO regional targets for the developing countries of Asia, Africa and Latin America are, in fact, efforts to quantify the social demand for education[1].

The methodology usually involves examination of the existing age-sex structure, demographic trends (birth, mortality, rural-urban migration, and other population shifts), enrolment ratios at each level and type of education, age limits for compulsory education and teacher-pupil ratios. Extrapolations from these are then made to arrive at estimates of the educational facilities and expenditures required in future years.

There is, however, a dangerous circularity here. The purpose of the projections by extrapolation is to guide government policy regarding provision of schools setting minimum school-leaving age, establishing pupil-teacher ratios etc. However, once these policies are in existence, they in turn will alter society's demand for education. This unfolds the conceptual vaguenss of the goal of educating to satisfy cultural requirements, which can hardly be quantified.

Another difficulty is that, even if the projections are roughly correct in so far as the desires of students or parents for their children are concerned, there is still no certainty that the type of students trained will be what the national economy needs or will be able to absorb. Considerable misdirection of efforts, not to mention thwarted aspirations, may arise. In developing countries the pool of unemployed intellectuals may provide the spark for revolution[2].

The social demand approach can not be a good decision making tool in developing countries chiefly for three reasons: (1) this approach ignores the larger national problem of resources allocation, (2) it ignores the character and pattern of manpower needed by the economy and can readily result in producing "too many of same types and not enough of others" and (3) it tends to overstimulate popular demand, to underestimate costs and "lead to a thin spreading of resources over too many students, thereby reducing quality and effectiveness to the point where education becomes a dubious investment"[3].

Manpower requirements approach

The manpower requirements approach to educational planning may be described as an attempt to derive educational outputs from a set of economic growth projections. Precisely, economic growth forecasts or targets are used to predict the sectoral distribution of output and employment in some future year. Most nations today are involved in manpower forecasting to a greater or lesser degree. The Organization for Economic Co-operation and Development has been of prime importance in this field, having initiated both the Mediterranean Regional Project (MRP) and the Educational Investment and Planning Programme (EIP). This approach has also been extensively used in the developing countries of Latin America, Africa and in India[4]. The degree of sophistication in the approaches in individual countries has however been a function of the time in which results were wanted, the quantity of resources available and the quality of statistics. The desired goals probably also exerted a wide influence on the approach employed, although these, too, might be a function of the other factors mentioned. The range of difference in planning activities within this approach can be generalized by distinguishing two aspects of educational planning. One defines the instrumental purposes which education is intended to serve, expressed in terms of educational system as a system of production, including the choice of production functions and system relationships which optimize the use of educational resources in meeting given output requirements. As a generalization, developing countries have placed great emphasis on the instrumental aspects of planning, while the advanced countries have been concerned mainly with system. A historical review of the methods developed in individual countries and their varying degrees of success would be a tedious process and outside the scope of this discussion.

TABLE 2.1

Occupational distribution of workers : by educational level, urban India 1961

	All Workers	Illiterate	Literate (without educational level)	Primary or Junior Basic	Matriculation or higher secondary	Technical Diploma not equal to degree	Non-technical diploma not equal to degree	University degree or post grad. degree other than technical degree	Technical degree or diploma equal to degree or post grad. degree
Professional, technical & related workers	100.0	8.1	15.6	19.4	26.7	2.9	2.4	14.8	10.1
Administrative, executive managerial workers	100.0	12.9	25.3	23.6	23.9	0.6	1.1	10.7	1.9
Clerical & related workers	100.0	10.3	19.6	21.9	37.9	0.2	1.7	7.9	0.9
Sales workers	100.0	26.5	38.0	25.4	8.5	—	0.3	1.2	0.5
Farmers, fishermen, hunters, loggers & related workers	100.0	70.1	20.5	7.1	1.8	—	—	0.4	0.1
Miners, quarrymen & related workers	100.0	73.6	19.2	5.1	1.8	0.1	0.2		—

(*contd.*)

TABLE 2.1 (*contd.*)

	All Workers	Illiterate	Literate (without educational level)	Primary or Junior Basic	Matriculation or higher secondary	Technical Diploma not equal to degree	Non-technical diploma not equal to degree	University degree or post grad. degree other than technical degree	Technical degree or diploma equal to degree or post grad. degree
Transport & communication workers	100.0	36.8	29.3	20.7	11.3	0.2	0.4	1.2	0.1
Craftsmen, production process workers	100.0	51.4	29.0	16.3	2.8	0.1	0.1	0.2	0.1
Service, sport & recreation workers	100.0	53.2	27.6	15.5	3.0	—	0.1	0.5	0.1
Not classifiable by occupation	100.0	35.9	33.1	15.9	10.7	0.3	0.6	3.1	0.4
Total	100.0	38.9	28.0	18.6	10.2	0.3	0.5	2.7	0.8

Source: 1961 Census

Notes

1. Farmers, fishermen etc. excludes cultivators (owners and tenants both) and agricultural labourers and workers not classifiable by occupation does not include those without occupations.
2. — indicates negligible figures.

Instead we shall confine ourselves to considering the general methods employed.

There are generally three methods of forecasting manpower requirements: (1) employer surveys, (2) analysis of the experience of more advanced countries, and (3) use of fixed co-efficient projection techniques.

Surveys of employers' expectations of their future needs are rapid methods of obtaining useful information. The survey can be restricted to those industries which are expected to expand, and the information may be collected inexpensively. The shortages revealed by employer surveys may, however, be relevant only in the short run. Employers probably possess shorter planning horizons than is suitable for decisions made on behalf of the whole society. The immediate nature of employers' perceived demands is important with regard to skills which require long periods of training. An educational system cannot be asked to give three years of training to a person required next month.

The experience of other countries, whether similar or more advanced, can also yield information about the size and composition of skilled labour pools that may be required in the course of a country's growth. Again, planners must be cautioned against relying on the pattern of skills observed in other countries, for most of the same reasons that reliance on the enrolment rates of others may be inappropriate. The range of possibilities for substitution among inputs in the production process is often quite wide. The substitution can take place between labour and machines and among labour of different skills. The value of looking at skills used in other countries depends upon the range of substitution permitted by available technology, as does the entire manpower forecasting and planning exercise.

Some production processes are characterised by fixed co-efficients, i.e. the amount of labour necessary is determined once the amount of capital to be employed in the operation is known. A good example is the ordinary shovel. It is generally set into operation by the use of one worker. Less than one worker will not do and more than one worker using a shovel may be almost as bad as none. Other production processes are capable of using a wide variety of combinations of men and machines. The use of fixed ratio projection techniques thus pertains more to the former processes. The methodology of projecting manpower requirements with fixed ratios has been described exhaustively by Parness[5]. First it is necessary to obtain an estimate of total employment for the target date. This can be accomplished in several ways. If the planner is fairly confident that he can predict future investment, he can estimate future employment on the basis of fixed incremental capital-labour ratios. Alternatively, the planned investment figures could yield the level of increased output when divided by incremental capital output ratios. The amount of labour necessary to achieve those increases in output can then be obtained with the use of assumptions about productivity (output-labour ratios). These anticipated levels of employment can be corrected for observed trends or any other relationships the analyst can discover between employment in various industries and other economic indicators.

TABLE 2.2

Social and private rates of return by educational level and country*

		Social			Private		
Country (1)	Year (2)	Primary (3)	Secondary (4)	Higher (5)	Primary (6)	Secondary (7)	Higher (8)
United States	1959	17.8	14.0	9.7	155.1	19.5	13.6
Mexico	1963	25.0	17.0	23.0	32.0	23.0	29.0
Brazil	1962	10.7	17.2	14.5	11.3	21.4	38.1
Israel	1958	16.5	6.9	6.6	27.0	6.9	8.0
India	1960	20.2	16.8	12.7	24.7	19.2	14.3
Philippines	1966	7.0	21.0	11.0	7.5	28.0	12.5
Nigeria	1966	23.0	12.8	17.0	30.0	14.0	34.0
Ghana	1967	18.0	13.0	16.5	24.5	17.0	37.0
Kenya	1968	21.0	19.2	8.8	32.7	30.0	27.4

*"Returns to Education", pp. 62, 166-171

The projection of employment of undifferentiated labour thus should take into account any anticipated changes in demand, hours worked, or, productivity. The level of aggregation chosen usually depends upon the information available, but a detailed analysis of the projections by sector or industry is desirable. By disaggregating, allowance can be made for changes in industrial structure which occur as industries grown at different rates.

It is then necessary to determine the skill composition of the projected employment by industry. This is done by applying existing or anticipated occupational composition patterns for each industry. Data availability will again determine the choice of skill detail, but attention should be addressed to the skills which require long periods of training.

Once the manpower requirements have been forecast, it is possible to trace their implications for the educational system and training institutions. The requirements can be compared with the expected supply by the target date, and shortages and surpluses of various occupations and skills can be ascertained. On the basis of these projected gaps, the educational planners can expand some activities and curtail others. The comparisons of production requirements with the anticipated supplies of labour force entrants will indicate whether existing educational facilities are sufficient and of the right type to provide the training required by the labour force of the future, or whether, if current enrolment trends continue, surpluses or shortages of skilled people may arise. Appropriate policy decisions might then be taken to ensure the desired occupational mix.

The translation of the demand for labour differented by skills into the composition and duration of education has never been accomplished satisfactorily. Even the detailed job analysis and exhaustive listing of educational qualifications for very specific occupations by the O.E.C.D. have proved inadequate.

The record of manpower forecasts, in spite of its broad logic is rather poor and major projections have been substantially inaccurate[6].

Fluctuations in business activities will affect demands for various types of skills and shortages and surpluses of trained manpower are bound to arise. Peoples' incomes will be influenced by business fluctuations and occupational trends. Consequently, the incentives offered to young persons to take up different occupations will be altered. Also, as prices of different types of labour change, there may be changes in labour out-put co-efficients and therefore in the quantities of each type of labour required in the production process.

TABLE 2.3

Overall social rate of return and per capita income by country

Country	Rate of Return	Per capita Income ($.U.S.)
United States	13.6	2,361
Canada	12.4	1,774
Mexico	21.4	374
Colombia	25.9	320
Chile	19.3	365
Great Britain	4.6	1,660
Sweden	10.3	2,500
Germany	4.6	1,420
Israel	9.6	704
India	17.6	73
Malaysia	10.6	280
Philippines	12.7	250
Japan	5.9	464
Nigeria	15.1	75
Ghana	18.9	233
Kenya	39.0	111
Uganda	17.6	84
New Zealand		1,931

Source: United Nations, Yearbook of National Accounts Statistics, 1968, and G. Psacharopoulos, Returns to Education, 1973.

Manpower planning has been criticised for misleading students in their career choices and creating a rigid pattern of staffing whereby all positions in a society are filled according to strict educational qualifications. More relevant is the criticism that preparation for various jobs can be obtained by several routes— apprenticeship, on-the-job training and formal schooling. A whole range of problems arise regarding which type of facilities should be provided, which is the most efficient approach, and what quality of worker is required. Associated problems include what pupil-teacher ratios should be assumed, and what type and length of training teachers themselves should have.

The implication for developing countries is that manpower forecasting is concerned chiefly with high and middle level manpower and it has nothing to say about primary education. Thus this approach serves no useful guide to the planners "about the educational requirements of the people who would constitute the vast majority of the nation's future labour force, namely, semi-skilled and unskilled workers in the cities and the vast majority of workers who lived in rural areas"[7]. Again, as it is practised today, the fixed-ratio projections and the assumed educational qualifications corresponding to each category of job are borrowed from industrialized countries and do not fit the realities of developing countries. It is also argued that the preconditions of the MRP methodology are not everywhere present in the developing countries. These preconditions include the anticipation of rapid growth associated with structural alternations in the economy, the existence of economic markets that function reasonably effectively, and a real commitment to take appropriate measures for securing rapid economic and social advance such as may be indicated by a general economic plan or a human resource development plan[8].

This enumeration of the difficulties that may arise in devising a workable manpower plan especially in developing regions, could be greatly expanded. However, those already listed are sufficient to indicate that manpower planning is not an exact science[9]. Many assumptions and informed judgements are necessary to compensate for gaps in data. But if planning of any sort were delayed until the data were complete and a fool-proof methodology was developed, no forecasts of educational needs would ever be made. The enormous outlays on education today and in the future demand that the planners at least make an attempt to determine how best to allocate these expenditures to meet the educational needs efficiently. Manpower forecasting, although far from an ideal approach to rational development of the educational resources, at least provides a framework for analysis and a guide to the gathering of additional required data that no other currently known method offers. "But in the last resort the test of any approach is how well it works and in what ways it is capable of further development"[10].

Rate of return approach

According to investment theory, the rate of return on a project is a summary statistic describing the relationship between the costs and benefits associated with the project. The purpose of the analysis is to provide a measure of the expected yield of the investment, as a guide to national allocation of resources. In educational planning the aim of rate of return analysis is to provide planner with vital information about the links between education and the labour market and about the economic consequences of alternative educational policies. The usefulness of this approach, however, depends on the analyst's ability to identify all the costs and benefits and to express alternatives in commensurable ways. Most research in this field therefore is concentrated to identify the costs and benefits of different kinds and levels of education. Speaking about an individual the future stream of gains attributable to an extra period of education can be compared with the costs incurred in obtaining that increment. Since a dollar (dollar value has been used as the yardstick by most writers on rate-of-return) received in the future is likely to be less valuable than a dollar received today, the future stream of gains should be discounted by an appropriate factor, analogous to an interest rate. The rate which equates the costs incurred in a given year with the discounted stream of benefits is the "internal" rate of return. An individual making the decision can then compare various internal rates of return on different courses of education and training. Thus for the individual, the discounted future stream of extra earnings attributed to education is frequently taken to be the relevant concept of benefit.

In calculating the amount of benefits, the analyst generally compares lifetime after-tax earnings of people who have had relatively more education with those who have had relatively less. But this may attribute increases in earnings to education which may actually have been caused by differences in intelligence, ambition, family connections, mortality rates or unemployment experience.

Becker[11] has shown that adjusting U.S. data for differential ability reduces his estimate of the rate of return on college education from 11 to 9 per cent. Denision[12] reduced the observed earnings differentials by two-fifths as an arbitrary attempt to correct for the possible overstatement of the benefits accruing from education.

Another major problem is to identify the costs of education from the standpoint of private rate of return, only the costs incurred by the individual (or his family) appear to be relevant to his decision to obtain more or less education. A sizeable part of the costs borne by the individual are—"opportunity costs"—costs which are approximated by the income that he could have earned if he had been working instead of being in school.

Shultz[13] has found opportunity costs to be about 60 per cent of the total costs of high school and college education in U.S. in 1956. He also[14] produced some rate of return estimates for three educational levels in the U.S. in 1958. These were 35 per cent for elementary, 10 per cent for high school and 11 per cent for college education.

Education is also a source of present and future consumption. Treating expenditure on education as investment neglects the consumption aspects of the educational experience. The impact of education on consumption also appears to endure beyond the period of schooling, extending the range of leisure activity.

According to Shultz[15] the value of the consumption components should be identified and subtracted from total costs in any study of the rate of return to education as an investment.

But some writers[16] criticize this on the grounds that it is difficult to estimate the consumption element of educational costs. Even the consumption costs could be separated from the investment costs conceptually consumption expenditures could not be decreased without corresponding decrease on the investment expenditure on education. Lewis[17] has suggested that the developing countries cannot afford the taxing of consumption components of educational expenditure. The studies of rate of return analysis also try to identify whether society as a whole is investing the proper share of its resources in education. These studies assume that earnings reflect productivity in a market economy and look at differentials in earnings as an index of the impact of education on economic development.

Another problem relates to what is called "external economics" and the non-monetary attractions of education. External economics (often called indirect benefits or social benefits) consist of those benefits which are not confined to the individuals receiving education, rather they spill over to the economy as a whole.

Blaug[18] has compiled a list of such indirect benefits of education : (1) the current spill-over income gains to persons other than those who have received extra education ; (2) the spill over income gains to subsequent generations from a better educated present generation ; (3) the supply of a convenient mechanism for discovering and cultivating potential talents ; (4) the means of assuring occupational flexibility of the labour force and, thus to furnish the skilled requirements of a growing economy ; (5) the provision of an environment that stimulates research in science and technology ; (6) the tendency to encourage lawful behaviour and to promote voluntary responsibility for welfare activities ; (7) the tendency to faster political stability by developing an informed electorate ; (8) the supply of a certain measure of "social control" by the transmission of a common cultural heritage ; (9) the enhancement of the enjoyment of leisure by widening the intellectual horizons of the educated. But these benefits are hard to be quantified. Monetary tags may be attached to them with the result that returns to educational investment would soar. Alternatively, that portion of the outlay on education which gives rise to such benefits may be treated as consumption spending. Then, the investment component having been lowered considerably, the true monetary yield from this component would again produce an extraordinarily high rate of return. Another possibility is to assume that a large portion of taxes gathered to finance school expenditures as well as individual outlays for schooling come out of consumption rather than investment[19]. If this is true, then because such investment in education is not competitive with other investments for individual's funds, returns could be extremely low— much lower than on investments in physical capital— and yet make a positive contribution to economic growth and therefore be justified.

Educational expenditures are increasing in all the developing countries, the popular demand is for more education for every one. Consequently, there is undoubtedly a desire when calculating rates of return on education to obtain rates which indicate these expenditures are justified. Where the rates so obtained are lower than are required to support these outlays on economic grounds, there is a temptation to fall back on the non-economic and cultural benefits. In other words to justify more educational spending one can add on more non-monetary benefits or assume only a portion of the total outlays will be investment.

The rate of return approach has great appeal, in the field of educational planning, because it helps the planner in a number of ways (a) by pointing out the need for changes in resource allocation, in favour of those types of education offering the highest rate of return, (b) by suggesting ways of increasing the profitability of education either increasing its benefits or lowering costs, and (c) by providing a conceptual framework for the examination of the costs of education in relation to the relative earnings of educated manpower.

A body of literature exists on the rate of return to different levels of education in the developing countries of Asia—Pacific and Africa. George Psacharopoulos has compiled the findings of the studies and their implications in developing countries[20].

There are, however, serious limitations to this kind of analysis as a tool of decision making in educational planning. These concern two aspects of the use of current earnings data in the

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calculation of benefits. On the one hand, present differences in the earnings of one occupation relative to another may not persist into the future. On the other, current earnings may not be an adequate measure of the productivity of a worker.

The structure of relative earnings among occupations is expected to change over time as relative scarcities change. For instance, if high schools had to pay higher salaries to attract science teachers and keep relatively scarce science teachers, then to hire abundant liberal arts teachers the observed rate of return on a specialization in science could be greater than the return on a liberal arts concentration. Thus if the policy prescription is to train more science teachers than liberal arts teachers, the individuals who opt for science specialization may find later on that abundant science teachers were earning less than scarce liberal arts teachers. In most of the developing countries the rate of return is much higher for engineers than teachers, it does not necessarily mean that we should reduce the number of teachers being trained.

The existence of divergent rates of return on preparation costs for alternative professions may set into operation market forces which will tend to destroy those differences. In the course of development, the income structure of occupations changes substantially and rapidly. On the evidence of Becker[21] it may be possible to predict future rates of return in countries like U.S.A., but it is doubtful how far this constant rate of return may be a correct indicator for government expansion of education expenditure in developing countries.

Wage structures in the developing countries as they exist now may be determined largely by tradition or they may reflect the former colonial wage structure. Harbison and Myers[22] and W.A. Lewis[23] have shown how earnings in Africa are set abnormally high. Richard Jolly[24] has argued that the rapid increases in the general level of wages and salaries in Africa have caused both the rising costs of education and widespread unemployment among school leavers.

However, in spite of these limitations, rate of return analysis enables the planner to raise some basic questions on the problem of choosing between alternative investment patterns, yielding different combinations of benefits in relation to costs. "Educational plans, formed in terms of 'requirements' or 'needs', may obscure the obvious fact that all planning consists of choice between alternatives. If cost-benefit analysis does no more than serve as a reminder of this truth, it will have practical significance"[25]. This sounds a modest claim for rate of return analysis.

Thus the three approaches to educational planning are subject to serious limitations and have required in their formulation a number of assumptions of dubious validity.

No one approach can therefore claim to provide the effective tool in the process of decision making in educational planning in developing countries. Perhaps the most realistic way to look at these approaches is to take them not as mutually exclusive to each other, rather as complementary, so that each can supplement the other in order to establish the framework to achieve the same goal; the rational allocation of resources in order to avoid shortages and surpluses of educated manpower, and to ensure the most efficient use of scarce resources to achieve the educational objectives of the nation.

Educational planning models

Educational planning models have been designed to answer specific questions in the field of educational programmes, and not to address the general situation. Models are designed to generate consistent plans, assess the feasibility or costs of a proposed plan or point out the bottlenecks to further educational development. All educational models share the characteristic of expressing the interrelationships of the education system in algebraic form. This means that all important flows of students, teachers and the services of equipment, textbooks, and buildings are explicitly related to each other in quantifiable ways. For instance, the enrolment of sixth formers in 1985, equals the number of fifth formers in 1984 times the progression rate (or one minus the wastage rate). The progression rate is thus the sixth form enrolment in one year divided by the fifth form enrolment of the previous year, and the wastage rate is the sum of the drop-out and failure rates. Other examples may be cited. The supply of teachers required for a particular grade in a given year is equal to the enrolment in that grade during that year, divided by the appropriate pupil-teacher ratio. Recurring costs per pupil are equal to the total cost of teachers' salaries plus textbooks, materials and equipment plus maintenance, all divided by the level of enrolment. Once the relationships have been stated algebraically it is possible to begin assigning numbers to the various symbols. The purpose of the model will dictate which variables are assigned values, and which will be determined in the solution of the model. Values are assigned to the parameter, which relate the variables to each other. These numbers may be taken from past records or they may be set by policy. For instance, drop-out rates can be those observed historically or extrapolations of recent trends and policy decisions can be reflected, say in pupil-teacher ratios. Solutions to the model can be made subject to constraints on resource use ; even social and political constraints can be built into the model if they can be quantified.

The early eductional planning exercises were supply models. Targets were accepted as given (often by manpower projections), and the problem they addressed was the investigation of alternative methods of supply.

The Tinbergen-Bos model of the Netherlands Schools of Economics[26] consisted of the application of pre-existing economic model to the problems of education. The most complete supply model, however, has been developed by UNESCO[27]. It was designed as a tool to assist the Asian member nations in developing educational policy. After specifying, quantifying, and programming the relationships, it became possible to observe the implications of changes in the educational system almost instantaneously. Linear optimizing models have been designed by Adelman, Bowles and others[28] to be applied to educational planning. These models seek to determine the numbers of graduates from each of the various schools and allocate these graduates to different sectors of the economy, in response to their labour requirements.

Models are quite sophisticated, but they are only as effective in generating solutions as the knowledge built into them. The particular objectives which the models maximize are subject to the same criticism as the rate of return analysis. Since the models use this kind of analysis to determine the desirability of different stages and types of education they also fail to account adequately for non-economic social benefits, the consumption aspect of education, external economics and complementarities. These models deal only with formal education and tend to ignore the economic contribution of on-the-job training, in-service programmes, extension activities and other forms of non-formal education. Another interesting aspect is that these models consider middle-level technical and vocational education as bad investment in developing countries[29]. However, as other models are developed in search of policy guidelines, the groping towards a synthesis for planning techniques may continue.

Finally it must be understood that the premature introduction of these sophisticated planning model (which are still in the developing stage) in the developing countries without due care and attention to the contexts may create confusion.

NOTES

1. "If the truth were told, nine-tenths of educational planning around the world is of this type, despite all the lip service to the more sophisticated varieties...." The World Year Book of Education 1967 : Education Planning, Mark Blaug et al. (ed.) Evans Bros. London, p. 85.
2. See Ernest Van Haag, Education as an Industry, New York, Kelly, 1956, pp. 127-130.
3. Coombs, P. H., What is Educational Planning, UNESCO : IIEP, Paris, 1970, p. 40
4. cf. (a) Problems and strategies of Educational Planning : lessons from Latin America, Lyons R.F. ed. Unesco: IIEP 1965 (b) Planning Education for African development, Richard Jolly, Kampala, 1969 : It is a forceful study for manpower approach in African development. (c) Manpower and Educational development in India (1961-86) Burgess T. Layard, R., Pant, P., Oliver and Boyd, Edinburgh, London 1968.
5. Parness, Herbert S., Forecasting Educational Needs for Economic and Social Development, Paris, O.E.C.D., MRP. 1962.
6. See Ahmad, B., and Blaug, M, The practice of manpower forecast : a collection of case studies, Elsevier Scientific Publicity Company, Ams-

terdam 1973. The authors have concluded that manpower forecasting is not only inaccurate but misleading.

7. Coombs, P. H., What is Educational Planning, UNESCO: IIEP, Paris 1970, p. 41.
8. Problems and strategies of Educational Planning, op. cit., p. 99.
9. "...manpower planning, as it is practised today, is but a bastard child of economics." Rado and Jolly, Projecting the demand for Educational Manpower: A case Study, in Economics of Education, M. Blaug (ed.) Vol. 2, Penguin Books, 1969, p. 76.
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19. Denision, F.E., The Source of Economic Growth in the U.S. and the Alternative Before Us. op. cit.
20. George Psacharopoulos, Returns to Education, Elsevier Scientific Publishing Co., Amsterdam, 1973.
21. Becker, G.F., ibid.
22. Harbison, F. and Myers, C.A., Education, Manpower and Economic Growth, New York : McGraw-Hill Book Company, 1964.
23. Lewis, W.A. "Economic Problems of Development" in *Restless Nations; A Study of World Tensions and Development*. New York, Dodd, Mead & Co. pp. 68-85.
24. Jolly, R., "Costs and Confusions in African Education : Some Implications of Recent Trends" in *Education in Africa*, Richard Jolly (ed.) East African Publishing House, 1969.

25. Woodhall, Maureen, Cost-Benefit analysis in Educational Planning UNESCO : International Institute for Educational Planning, Paris, 1970, p. 48.

26. J. Tinbergen and H.C. Bos, 'A planning model for the educational requirements of economic development' O.E.C.D. Study Group in the Economics of Education, The Residual Factor and Economic Growth, O.E.C.D., Paris, 1964, pp. 147-67

27. 'An Asian Model of Educational Development: Perspective for 1965-80', Paris, UNESCO, 1966. A modified version of the Asian Model was applied to the Spanish Educational System to test the targets of the Spanish Educational Reform launched in 1967.

28. Adelmen, Irma, "A Linear Programming Model of Education Planning: A case Study of Argentina" in The Theory and Design of Economical Development, John Hopkins Press, Baltimore, 1966.

    Bowles, Samuel, "Planning Educational System for Economic Growth", Harvard University Press, Mass. 1966.

29. Bowles, Samuel, ibid., pp. 201-202

CHAPTER 3

THE ROLE OF TARGETS IN EDUCATIONAL PLANNING

The setting of educational targets forms the basis of an educational plan in that they are the measurable goals being sought by the plan. It is not only that they provide the basis for quantitative conclusions about the growth of expenditures on education, but also that target requirements of "output" from the educational system indicate the balance that must be sought between the several levels of education (Primary, Secondary and Tertiary), changes in structure, and broad changes in curriculum emphasis. The educational targets, generally speaking, are the quantified goals that a nation seeks to achieve. For instance, one of the major national goals of the developing countries of Asia is the provision of universal primary education for the whole population of school age. In order to achieve this goal the UNESCO Karachi Plan[1] set the targets for fifteen countries in terms of accommodation, teachers and equipment within a period of twenty years from 1961. Each of the fifteen countries incorporated this target in their national educational plan, although in many countries the targets are far from being achieved even in 1986.

In the literature of educational planning (a considerable amount of which is obviously coming from the too ready adoption of techniques and approaches used in economic planning) there seems to be an amount of confusion between the three concepts of projection, forecast and target. Projections are made on the assumption that past trends and policies are constant and for that reason they are very useful tools of analysis. A forecast is "an estimate of what will happen on the basis of existing policies or policy changes which are expected to take place"[2]. Forecasting estimates the possible future demands, thus for the elementary level it would project percentage distribution for ages and distribution between public and private sectors. The fact that from forecasts or projections we can predict that in a given country in five years' time one million children will demand elementary education is an important point whose implications must be understood and analysed. But that is not a target. "A target should not be a statement of what we should like to see achieved . . . neither is it the figure of what we will be achieving if no action is taken. A target is the figure it is proposed to achieve as a result of the action that is contemplated"[3]. This means that target-fixing takes into account both possibilities and needs and involves a political decision. Thus a clear definition of national goals: political, social and economic is a precondition for defining the country's educational targets. The planner would then be able to prepare the plan which will conform to the greatest degree to the national goals and aspirations of the country. They are not only the guidelines in allocating resources among competing demands and in establishing priorities, they also help the planner in defining the emphasis to be given to each target proposed. It would then be easier for the planner to translate the targets ". . . into resources of money, teachers and buildings, with all the consequent problems of educational costs, assessment of teacher supply and demand and so on"[4].

However, in assessing the nature of broad goals in a particular country, the planner often finds that some goals are openly stated, some are simply implied and others may be expressed only in normative terms (like 'democratization of education', 'equal opportunity for all in education' etc.). Since the ultimate responsibility of determining the targets lies with the political authority of the country "the proper function of planners is to help political leaders make informed decisions about targets. Ideally, the planners should prepare a series of targets based on alternative assumptions of efforts within the ranges of its possibilities"[5].

In the developing countries of this region due to popular pressure, political authorities often tend to make many ambitious commitments about educational goals, which are neither feasible nor desirable in an immediate future. The educational planner may therefore prevail upon the political leaders to think in a more rational way and fix realistic and feasible targets which task of course is not always easy.

Many targets may seem desirable, but the resources of the developing countries are very limited, hence the planner must consider the feasibility before the targets are fixed. The following are some of the important factors in order to test the feasibility of educational targets:

(1) Targets should be fixed upon the availability of adequate numbers of qualified teachers and other personnel. Many countries have found themselves in considerable difficulty when implementing educational targets because of the lack of adequate teachers and administrators. This problem must therefore be considered carefully.

(2) The educational targets must be based on the absorptive capacity of the economy. Before fixing the educational targets, the planner must consider the needs of the particular economy and the demands posed by its specific plans that is, the rate at which the system can or needs to absorb additional supplies of educated manpower. Arthur Lewis stresses the fact that absorption capacity is limited by the high cost of education in developing countries: "The main limitation on the absorption of the educated in poor countries is their high price, relatively to average national output per head. . . . In consequence, all production . . .which depends on using educated people is much more expensive, in relation to national income, in poor than in rich countries. The poor countries may need the educated more than the rich, but they can even less afford to pay for or absorb large numbers . . . . In the long run, the situation adjusts itself because the premium for education diminishes as the number of educated increases. . ."[6].

(4) When the educational targets are defined the proposed sources of finance should be identified at the same time. These are to be assessed on the basis of provision in the national budget, in new sources of finance and/or in external aid.

TABLE 3.1

Selected indicators of the expansion of primary education in Asia and the Pacific 1970-1982 (29 countries) (1)

	Gross enrolment ratios (%)				Disparity between sexes (in % pts)		Enrolment Average annual growth rate (in %)		
	1970	1982			1970	1982	1970-1975	1975-1980	1980-1982
	MF	MF	M	F	M-F	M-F			
Developed countries									
Australia	115	109	110	109	0	1	-1.1	1.0	-0.8
USSR	104	107	...	...	...	...	-3.7	0.3	1.8
Japan	99	100	100	100	0	0	1.5	2.7	0.3
New Zealand	110	102	103	101	2	2	-0.5	-0.5	-1.2
Group A (100% and more)									
China	102	116	127	104	...	23	7.5	-0.6	-0.9
Indonesia	77	116	122	109	12	13	3.6	7.5	2.8
Korea, Dem. People's Rep. of (2)	...	113	115	112	...	3	...	...	...
Vietnam (3)	119	113	120	106	11	14	...	1.3	3.5
Fiji	106	109	110	109	4	1	1.6	-1.2	0.6
Tonga	117	108	110	105	6	5	1.5	-0.7	-2.1
Philippines	108	107	106	107	2	-1	1.7	2.3	0.7
Mongolia	116	106	105	108	9	-3	2.7	2.1	2.1
Korea, Republic of	103	104	106	103	1	3	-0.5	0.2	-1.7
Singapore	106	104	106	102	8	4	-2.0	-2.3	-2.2
Sri Lanka	99	104	106	101	10	5	-3.0	7.7	1.5
Turkey	108	103	111	95	29	16	1.7	0.7	3.5
Lao.People's Dem. Rep.	64	100	107	93	31	14	5.3	8.6	4.2

(contd.)

TABLE 3.1 *(contd.)*

	Gross enrolment ratios (%)				Disparity between sexes (in % pts)		Enrolment Average annual growth rate (in %)		
	1970	1982							
	ME	MF	M	F	1970 M-F	1982 M-F	1970-1975	1975-1980	1980-1982
Group B (85-99%)									
Samoa	98	99	97	101	-2	-4	2.1	0.2	-0.9
Iran, Islamic Republic of	74	97	112	81	41	31	8.2	3.1	3.5
Thailand	91	95	98	93	8	5	3.0	3.3	0.8
Nepal	26	94	141	43	35	98	11.9	14.1	19.2
Malaysia	87	92	93	91	7	2	2.4	1.3	1.5
Burma	87	86	88	84	9	4	1.8	3.3	2.9
India	73	85	100	70	34	30	2.9	2.0	4.4
Group C (below 70%)									
Papua New Guinea	52	66	73	58	25	15	4.5	4.7	4.3
Bangladesh	52	64	78	49	34	29	9.6	-0.3	3.2
Pakistan	40	58	81	33	35	48	5.6	6.1	4.6
Afghanistan	25	36	57	14	34	43	5.4	7.3	6.4
Bhutan	6	15	19	10	9	9	10.3	11.1	10.9

Source: UNESCO/ROEAP, BANGKOK
ED-85/MINEDAP/3, 1985

(1) Within each group, countries are ranked according to the value of the gross enrolment ratio for both sexes (MF) in 1982.

(2) Data refers to 1976.

(3) Data for 1970 refer to 1975.

This undoubtedly entails a difficult task for the educational planner, but so is the task of setting the educational targets ; because educational target-setting is an action plan whose only significance lies in its practical implementation and not to prepare a theoretical exercise like many well-intentioned constitutional or legal studies to be found in the developing countries.

NOTES

1. "The Needs of Asia in Primary Education", Educational Studies and Documents, No. 41, UNESCO, Paris.
2. Waterston, Albert, Development Planning: Lessons of experience Baltimore, John Hopkins University Press, 1965, p. 153
3. Lewis, W.A., Principles of Economic Planning, pp. 108-109.
4. The World Yearbook of Education 1967 : Educational Planning Boredy George ZF. and Lauwerys, Joseph A. (Editors) Evans Brother Ltd., 1967, p. 142.
5. Wasterston, Albert, ibid., p. 163.
6. Lewis, W.A., "Priorities for Educational Expansion", Policy conference on Economic Growth and Investment in Education O.E.C.D., Washington 1961, Part III p. 37.

CHAPTER 4

PRIORITIES IN EDUCATION

In presenting the desirable educational targets, the matter of educational priorities is of vital importance. Developing countries with limited scarce resources cannot be expected to do everything at once. They must therefore fix priorities in terms both of quality and quantity. It must however be remembered that priorities within the educational system again depend on the amount of resources available and on the overall national development programme adopted by the developing country concerned. It is therefore not only a question of ascertaining the appropriate levels of educational expenditure in the light of economic and social objectives, but also of establishing the optimal distribution of expenditure of any given amount among the various levels and categories of education. Each country may have a different scale of priorities. The stage of development, the economic resources, the social and cultural values and the national goals determine this scales of priorities.

As W.A. Lewis puts it, "The requirements of economic development help in setting priorities, but they are not overriding. Education was not invented in order to enable men to produce more goods and services. The purpose of education is to enable men to understand better the world in which they live so that they may more fully express their political capacities, whether spiritual, intellectual or material"[1].

Priorities in educational planning should be defined within a provision for its accomplishment both in terms of resources (human and economic) and in terms of its implications and of the time scale to be achieved. We do not, however, propose to set any definite methodology for fixing the priorities in educational targets, nor will it be realistic to make any such effort. But as a guideline to the educational planner in developing countries, we would like to summarize the conclusions of two different but very important studies— one made by Harbisonand Myers and the other by Psacharopoulos[2]. The former study classified seventy five countries into four levels of human resource development: "level I, underdeveloped ; level II, partially developed ; level III, semi-advanced ; and level IV, advanced", based on "simply the arithmetic total of (1) enrolment at the second level of education (15 to 19 years) as a percentage of the age group 15 to 19, adjusted for length of schooling, and (2) enrolment at the third level (20 to 24 years) as a percentage of the age group, multiplied by a weight of 5". Using a indicators of economic growth (a) per capita gross national product (in U.S. dollars) and (b) percentage of active population engaged in agricultural occupations, the study attempts to discover the relationship between economic growth and human resource development and then to generalize on which of the areas of human resource development need special attention in planning the development of countries in the various levels. The policy findings are as follows:

For the Level I, underdeveloped countries:

(a) First priority should be given to training people who can replace foreign officials in policy making posts. This being the most urgent social and political requirement, it not only applies to positions in government, but also to major commercial and industrial establishments.

(b) The next step is a comprehensive programme of upgrading and training manpower in the major employing establishments. Here government and large enterprises must assume most of the responsibility for lower and middle-level training.

(c) Then follows the formulation of an appropriate compensation structure for high level manpower.

(d) All branches of formal education are in need of urgent development, but absolute priority should be given to second level, education, as almost without exception, foreigners will have to be replaced by secondary school graduates. Over a ten year period, the average enrolment ratio is to be raised

TABLE 4.1

Enrolment by level of education in Asia and the Pacific 1970-1982

Region and level of education	Enrolment (in thousands)				Average annual growth (in %)		
	1970	1975	1980	1982	1970 1975	1975-1980	1980-1982
Total Asia and the Pacific (31 countries)							
Total all levels	372,866	471,432	518,068	521,980	4.8	1.9	0.4
1st level	266,037	328,311	347,954	353,900	4.3	1.2	0.9
2nd level	95,329	128,122	151,295	147.543	6.1	3.4	-1.3
3rd level	11,500	14,999	18,819	20.537	5.5	4.6	4.5
Developed Asia and the Pacific 4 countries)							
(Total all levels	74,753	74,508	74,818	75,199	0.1	0.1	0.3
Ist level	37,448	33,642	35,526	36,336	-2.1	1.1	1.1
2nd level	30,683	33,417	31,244	30.799	1.7	-1.3	-0.7
3rd level	6,622	7,449	8,049	8.064	2.4	1.6	0.1

(*contd.*)

TABLE 4.1 (*contd.*)

Developing Asia and the Pacific (excl. China) (26 countries)							
Total all levels	166,302	200,115	239,042	258,859	3.8	3.6	4.1
1st level	123,309	143,729	166,158	177,845	3.1	2.9	3.5
2nd level	38,163	49,337	63,274	69,716	5.3	5.1	5.0
3rd level	4,830	7,049	9,610	11,298	7.9	6.4	8.4

Source : UNESCO/ROEAP, BANGKOK
ED-85/MINEDAP/3,1985

from 2.7 to 12.0, the ratio prevailing among Level II countries. Secondary education should be provided free for outstanding students and should prepare for intermediate level positions as well as university work.

(e) A system of higher education should (and probably will) be created.

(f) Various forms of adult education should be developed.

For the Level II, partially developed countries:

(a) Expansion in the form of secondary education should be a top priority need.

(b) General secondary education should be reoriented to more fundamental subjects, with emphasis on multi-purpose secondary schools.

(c) The out-put of the agricultural, scientific and engineering faculties of the universities should be expanded and pay and status of scientists and engineers should be raised.

(d) Facilities for training sub-professional technical personnel should be provided for in various forms and geared to actual employment.

(e) Expansion of primary education should be made with all possible speed, but definitely not at the cost of quality.

(f) Extreme care should be taken to avoid wasteful capital expenditures on educational buildings.

(g) There is urgent need for a comprehensive programme for upgrading manpower already in employment, requiring provision for part-time training and adult education programmes with special emphasis on responsibility of employment establishments for in-service training.

By using a different index of educational development based on costs, George Psacharopoulos found the following conclusions concerning the developing countries:

(a) The most profitable educational level in most countries is the primary one, which suggests that arguments for universal primary education based on human rights are also supported by good economic sense.

TABLE 4.2

Economic and educational development indicators, by country

Country	Percentage of Agriculture in G.D.P.	Harbison and Myers index	Percentage of professional Workers in the labour force
(1)	(2)	(3)	(4)
United States	4.0	261·3	10.8
Canada	6.1	101.6	10.6
Puerto Rico	12.4	..	7.8
Venezuela	7.2	47·7	..
Colombia	30.5	22.6	3.9
Chile	12.6	51·2	4.9
Mexico	18.0	33.0	3.6
Brazil	27.0	20.9	3.1
Great Britain	3.3	121.6	9·6
Germany	5.0	85.8	7.8
Denmark	12.3	77.1	7.8
Norway	8.2	73.8	8.0
Sweden	6.0	79.2	15.3
Belgium	5.5	123.6	8.0
Netherlands	8.3	133.7	9.2
Greece	25.6	48.5	3.4
Israel	13.5	84.9	11.4
India	51.3	35.2	1.7
Malaysia	28.3	23.6	1.7
Japan	14.3	111.4	3.0
Philippines	32.4	..	5.5
Nigeria	55.6	4.95	3.3
Ghana	33.7	23.15	2.4
Kenya	34.6	4.15	1.2
Uganda	59.4	5.45	1.3

Source: Col. (2) United Nations (1968), vol. 1; col. (3) Harbison and Myers (1964) p. 33 ; col. (4) International Labour Office (1967) quoted, ibid., p. 189.

TABLE 4.3

Distribution of total resources devoted to education by level and country

(per cent)

Country	Primary	Secondary	Higher
United States	32	31	37
New Zealand	27	54	19
Great Britain	10	70	20
Israel	29	47	24
Mexico	53	35	12
Chile	46	38	16
Colombia	37	38	25
Malaysia	44	47	9
Philippines	33	31	36
Ghana	33	57	10
S. Korea	29	59	12
Kenya	30	47	23
Uganda	18	25	7
Nigeria	51	38	11
India	31	56	13

Source: George Psacharopoulos, ibid., p. 129

(b) In the developing countries returns to investment in human capital are well above the returns to physical capital which suggests that developing countries should give greater emphasis to investing in human as against physical capital.

(c) Investment in education contributes substantially to the rate of growth of output.

(d) Labour with secondary educational qualifications seems to contribute in effect more to output than it is paid for.

(e) Higher education is very expensive in relation to the other levels of education. This suggests that planners should be particularly careful to assess the benefits from this level of education before proposing expansion.

(f) There is a high degree of substitution in production between different types of educated labour. What this suggests is that future expansion of the educational system should also be based on relative costs and benefits rather than solely on manpower needs.

George Psacharopoulos has further tried to find whether there are any statistical relationships between the level of economic or educational development of a country and the rates of return to investment in education. He has used two alternative proxies for the purpose. Economic development has been measured first by the level of per capita income and secondly by the percentage contribution of agriculture to Gross Domestic Product. The level of educational development has been measured first by what is known as the "Harbison and Myers index" and alternatively by the percentage of professional, technical and related workers in a country's labour force. The values of these variables appear in Table 4.2

TABLE 4.4

Projected enrolments and financial requirements for Unesco Regional Educational Targets by regions (1965-1970)

	1965	Per cent	1970	Per cent	Average Annual Rate of Increase (in per cent)
Africa:					
First level:					
enrolment (000)	15279		20378		5.93
Participation rate		51		71	
Second level:					
enrolment (000)	1833.5		3390		13.08
Participation rate		9		15	
Third level:					
enrolment (000)	46		80		11.71
Participation rate		0.35		0.55	
Total Expenditure (U.S. $ million)	1139		1701		8.35
GNP (U.S. $ million)	19694		24413		4.39
Percentage of GNP		5.78		6.96	

(contd.)

TABLE 4.4 (*contd.*)

Latin America:					
First level:					
enrolment (000)	34721		43438		4.58
Participation rate		91		100	
Second level:					
enrolment (000)	6230		11457		12.96
Participation rate		22		34	
Third level:					
enrolment (000)	665		905		
Participation rate		3.4		4.0	
Total Expenditure (U.S. $ million)	3219		4937		9.00
GNP (U.S. $ million)	71130		90782		5.00
Percentage of GNP		4.52		5.43	
Asia:					
First level:					
enrolment (000)	110368		148716		6.15
Participation rate		63		74	
Second level:					
enrolment (000)	14545		23064		9.66
Participation rate		15		19	
Third level:					
enrolment (000)	2206		3320		7.86
Participation rate		3.4		4.1	
Total expenditure (U.S. $ million)	3261		4803		8.05
GNP (U.S. $ million)	88319		112719		5.00
Percentage of GNP		3.69		4.26	

Source : UNESCO, UNESCO's contribution to the promotion of the aims and objectives... pp. 35-37.

Finally it must be remembered that priorities in educational planning finally should not be absolute and mutually exclusive.

They should represent "a series of interlocking actions each of which will affect the others"[3].

Competing claims of quality and quantity

In fixing the priorities the eudcational planners in developing situations may often find himself in the dilemma of quality and quantity of education. As a matter of fact the concept of quality is integral to the very concept of education of any kind at any level, since education is a process of qualitative change through the development of the innate capacities of an individual, so that he may live a fuller, better and more productive life. The concept of quality can be carried to a point of abstraction where, like an ideal, it tends to move higher and higher the nearer it is approached[4]. The immediate concern of the planner, however, is with the quality that can be achieved with the resources available. A public educational plan has to be designed in terms of the educational development of the masses of the people, harnessing the entire stock of human resources available to a nation towards the national goal of a good life for all its citizens. Even if resources were available to provide the highest level of education for everyone, the quality of education would not be the same for all, since the individual differences in innate capacity are bound to be reflected in the quality of education received by different people. Subject to this inevitable limitation, there is no denying that the better the quality of education, the greater is the benefit to the society from its investment in education. If more of the resources are, however, applied to quantitative expansion, naturally less will be available for qualitative improvements. This poses a serious dilemma for the planner, and left at the theoretical level this can be subject of endless polemics. There are those who passionately believe in quality's precedence over quantity in education, as there are ardent advocates of priority for the rapid expansion of basic education. It appears that the concept of quality has many dimensions from the view of practical planning. First, the concept of quality at any point in time is relative to the stage of development of a country, and the human and material resources available for further development. Thus it has different meanings in different countries, and even in the same country it is not a fixed notion, but changes with changing resources and aspirations. As the level of a country's attainment rises, the concept of quality also moves up in the scale. Second, the conflict between quality and quantity is a problem not peculiar to the developing countries. It exists, though in less pronounced form even in the most advanced countries. The choice of the planner, therefore, is not unfettered. He has to interpret the concept of quality in the context of the complex social situation in which it works. Within the limits of the total social situation the directions that the planner can follow in seeking quality are provided by the educational goal which in most developing countries is to move fast both vertically and horizontally in educational development so as to (a) ensure maximum attainable expansion of basic education, and, at the same time (b) stimulate efforts in higher education and research to approach the level of quality attained in the advanced countries. The problems finally reduces itself to one of deciding how far quantitative expansion in the elementary level can go without any serious setback to quality resulting in wastage, and how far and in what manner excellence in the quality of education in the higher stage can be promoted within the limit of resources available the solution naturally will take different forms in different countries, but it seems likely that the emphasis will be on quantitative expansion in the lower stages of education, and on quality in the higher stages. The disparity between these two extreme points of variation in the quality of education can be reduced considerably through better teacher-education programmes, enriching the curriculum, improvement of textbooks, and introduction of extensive in-service training for teachers as well as administrators. In other words, the educational "input" can and should be improved. It should be pointed out that there is no necessary conflict between qualitative and quantitative expansion in education or between primary and secondary or between secondary and higher education. The educational process is an organic whole that must respond quickly to the continual adjustments called for by changing circumstances. The educational planner should therefore try to identify the best possible alternate method for providing a continuous improvement in educational quality and increasing the student output at various levels, of course within the available scarce resources of the country.

NOTES

1. Lewis, W.A., ibid., p. 35.
2. Frederick Harbison and Charles A. Myers, Education, Manpower and Economic Growth, McGraw-Hil Book Co., New York, 1964.

   George Psacharopoulos assisted by Keith Hinchcliffe, Returns to Education : An International Comparison, Elsivier Scientific Publishing Company, Amsterdam, 1973.
3. Economic and Social Aspects of Educational Planning : UNESCO, Paris, 1964, p. 92.
4. A detailed conceptual discussion about this aspect is available in the IIEP book Qualitative Aspects of Educational Planning, edited by C.E. Beeby, Paris, 1969.

CHAPTER 5

STATISTICAL DATA COLLECTION AND USE

In educational planning, one of the fundamental requirements is a set of quantifiable data. The collection and analysis of statistical data about the educational system and the related socio-economic parameter forms one of the basic tools for providing the quantitative foundation of future educational expansion and development. In the developing countries, however, the collection and testing the accuracy of statistical data pose a major constraint (although a very few countries like India and possess a fairly good statistical services). There is no standardized procedure, at the moment, for the collection and utilization of statistical information for educational planning, but the planner should be careful in interpreting inadequate or inflated statistics[1]. Besides, the planner himself can contribute towards improving the methodology through complementary information like survey and personal information.

Sources of information

There are normally three major sources of statistical information, (i) official sources of the government, (ii) private sources, and (iii) international sources like UNESCO, ILO, etc. (i) The first source the educational planner must try are the government agencies. He may obtain from them the national development plan and other documents which may contain the national goals and objectives. The national office of statistics or the office for the co-ordination of the statistics for the whole country and the census bureau should be his most important sources of information. The educational planner may also get important information or data from the regional offices of the government which cannot be obtained from the central offices. (ii) Private institutions like institutions of private education, industrial associations, chambers of commerce, trade unions, religious and other voluntary institutions may also provide useful information to the educational planner. Even some data collected from official sources can be verified through these sources. (iii) Publications by international organizations like the United Nations, World Bank, etc., provide important statistical data which cannot be obtained from other sources. The educational planner may easily obtain information that is important for interstate comparisons.

As we have said earlier, there is no standardized methodology for the collection and compilation of data to be utilized in educational planning, and since educational planning in developing countries at the present moment has to be carried out with grossly insufficient statistical resources, we have tried to typify in this chapter the principal statistical data (necessary for education planning) with the hope that the ultimate choice and treatment of the data will lie with the educational planner in his particular context. Although it is absolutely true that for some of the more intricate types of information listed, no data at all, or very inadequate data, may at the moment be found in some of the developing countries and consequently the methodology may have to be modified accordingly.

Classification of data: methodology

The statistics needed for educational planning may be broadly related to different regions, those belonging to educational statistics and those belonging to other fields of statistics such as demographic, labour force, economic and financial statistics.

Demographic statistics are necessary to identify the size of the population that will demand education at different levels of the education system, as well as the future manpower that will enter into the occupational structure in a given time. The age classification commonly used in censuses, by five-year groups (0-4 years, 5-9 years, 10-14 years, etc.) does not, as a rule, fit in with normal age limits related to the various levels and types of education in a given country. Thus wherever possible, the relevant age groups (school age population) are to be estimated by means of interpolation in the standard age classification. A distinction between urban and rural areas is necessary because of the basic differences in educational needs between these areas. Projections concerning future changes in population structure may be of enormous importance for educational policy decisions. Once the actual demographic structure of a country, together with the future projection, is known it may be easier to define the minimum education a country can afford.

In the countries where centrally-prepared population projections are not available, the educational planner should collect information about prevailing tendencies in the demographic development of the country concerned, in order to enable him to make some rough estimates of future changes in the population structure. Wherever appropriate, data regarding external migration as well as internal migration (i.e. population movement from rural to ruban areas) may be of great importance in the preparation and formulation of educational plans.

Another important reason for demographic information is that such data is necessary to project the future manpower requirements of a country. The manpower approach in educational planning implies that the planner should know, along with the demographic information, the occupational structure in a country and the forecasts for demand in each one of these sectors. Statistical information about the present structure of the labour force is therefore one of the basic requisites for each planning. Such occupational data needs to be translated into their educational components. The international standards for classification of occupations[2] should be applied as far as possible. How detailed the breakdown should be within this framework, however, depends on the nature and purpose of the planning process and on the data available. Wherever possible a cross classification should also be given between occupation and the level of education.

It is clear that the occupational structure foreseen for the future labour force is of great importance for determining future educational needs. The educational planner, therefore, has to know the approximate number of primary school graduates, the number of secondary school graduates and the number of college and university graduates, that will be necessary in the future. It goes without saying that projections of this kind are extremely complicated and time-consuming and consequently there are not many countries which have attempted comprehensive studies of this kind.

The economic resources of a country are of vital importance towards the formulation of any decision in educational planning. Basic statistics in this field are therefore indispensable. Such data as the Gross National or Domestic Product (whichever is in practice in the country) is necessary for a good period of time in order to get a clear picture of the economic development in broader lines. If, however, the full details of the G.D.P. or G.N.P. are not available, other indicators of economic growth, for example industrial and agricultural production, may be used.

Data regarding the total expenditure by all kinds of public authorities in the country— central or federal government, provincial or state government, city, district and/or local authorities— should be compiled. Such figures, for a number of years, may illustrate the present position and recent tendencies concerning educational expenditure in the context of public economy.

So far we have discussed the statistics needed for educational planning from sources external to the educational system. Now we refer to the data needed from within the sytem itself. The data will include the basic stock and flow statistics i.e. the way students and teachers move in and out of the system and the quantity of the physical facilities and materials available. Data on students should optimally be cross-classified by age, grade (year of study), sex and subjects being studied to the country's organizations (technical-vocational) by regions ; number of graduates from each level, percentage of student promotions, repeaters, drop-outs and distribution between the number of students in the public and private sectors. This kind of data forms the baseline to define the size, personnel and resources the system will need and to fix the targets for educational decisions. As the demand and supply of scientific and technical personnel play an especially important role in the development of education in developing countries, it is necessary to have precise information about specialization of students in higher education.

One of the most serious obstacles to the development and expansion of educational programmes in many developing countries is the shortage of qualified teachers. Consequently precise information about the qualifications and annual turnover of teachers, as well as annual loss due to death, retirement, transfer to other professions or any other reason, should be collected. Methodologically this serves two purposes in educational planning— one relating to the qualitative and quantitative expansion of the educational system, the other relating to the replacement of current losses in teaching staff. Wherever applicable, data on the number and percentage of part-time and full-time teachers should be included. Again, cross-classification on age and sex at all levels and types of education for teachers is very important, particularly in a long term perspective plan.

Since educational planning involves plan for future supply of physical facilities, current data should therefore be gathered about the quality and size of school buildings,number and size of classrooms, the floor space for teaching and administrative staff for the relevant levels and types of education. Data on costs of expenditure must be collected. One of the preconditions of good educational planning is to define the policies and targets in financial terms, which involves costing. In the first plan statistical data are necessary about the recurring expenditure on education met by various public authorities—central or federal government, provincial or state governments, city, districts or local authorities. These expenditures should be distributed both by categories and levels and types of education, for instance teaching costs and non-teaching costs. In the second place, data on capital expenditures, preferably divided into categories and various levels and types of education should be collected. Thirdly, data are required about the annual costs to various authorities for debt services in the form of amortization and interest payments, relating to investments made in education financed by loans. This will help the planner to compute the various unit costs in order to compare the costs of different alternatives in the process of planning.

Care must be taken to collect data on the above line for cost about private education wherever it is applicable. In this case a clear distinction must be made between the subsidies this form of school receives from government or other bodies and its own resources.

The statistical data outlined above are certainly very useful for the preparation of an educational plan. But it doesn't mean that the planner must not move forward in the absence of data. While a detailed statistical data is always desirable, it is a hard fact that in practice many necessary facts and statistical data are not available in developing countries[3]. At the same time, the merits of the data collected depend on how these are utilized by the educational planner. The educational planner must be able to understand the implications of the data as well as to interpret them ; he must understand the present strengths and weaknesses of the society he is planning for[4].

NOTES

1. Gunnar Myrdal (The Challenge of World Poverty, Allen Lane, The Penguin Press, London, 1970, p. 166) cites an example how educational data based on census figures was grossly misconstructed in Pakistan.
2. International Standard Industrial Classification of all Economic Activities, United Nations: Statistical Papers, Series M. no. 4, 1949.
3. Wolfgang Stopler's book "Planning without Facts" illustrates such situations.
4. The OECD Book "A Handbook of Statistical Needs for Educational Planning" and the IIEP Book "Methodologies of Educational Planning for Developing Countries" may help the planner further to formulate a theoretical and methodological approach to define the basis and collection of statistical data for educational planning.

CHAPTER 6

COST ANALYSIS IN EDUCATIONAL PLANNING

Cost analysis is a vital element in educational planning for three major reasons. It must ensure that (i) the total cost of educational expansion as laid down by the plan is realistic in relation to other objectives of national development, that (ii) the structure of expenditure as between the different levels and types of education corresponds to national needs ; and that (iii) the detailed allocation of resources as between the different productive elements of the educational system– teachers, buildings, equipment etc., is consisted with the most efficient use of money and educational resources.

Educational plan involves a significant amount of national resources and its expenditures must therefore be assessed against expenditures on other priorities. Often a target of 4 to 5 per cent of GNP is advanced as a suitable expenditure on education in a developing country. The usual method, however, of making such an assessment is to measure expenditure on each major sector of the economy as a proportion of a common indicator. This is usually done in two ways : total expenditure on each sector against a national or domestic product ; and public expenditures on each sector against total public expenditures. Thus a real choice has to be made between education, health, housing, defence, infrastructural investment and direct investment. It is the common experience in many developing countries that educational plans were drawn by the ministries of education without much thought to the overall national targets the resources necessary for achieving them[1].

TABLE 6.1

Capital expenditures as a percentage of total public expenditures on education (16 countries)

Country	Capital Percentage	Highest Percentage over 1960-65
Ethiopia	16.1	22.8
Kenya	8.1	8.1
Mali	4.1	38.6
Nigeria	5.1	17.2
Argentina	7.2	7.2
Ecuador	13.7	13.7
Guyana	13.6	13.6
Uruguay	9.2	9.2
China	14.4	14.4
Japan	24.0	25.6
Pakistan	42.0	46.0
Malaysia	22.0	22.0
Austria	20.9	20.9
Czechoslovakia	9.5	24.9
Denmark	24.3	25.4
Finland	18.7	22.0

Source: Compiled from UNESCO Statistical Yearbook, 1967, quoted, Coombs, P.H., Hallak, J., ibid., p. 205

Costs are usually separated into recurring and capital costs[2]. Recurring costs are usually calculated on a per pupil per year basis, but for certain analysis (specially those concerned with the output of a particular level or type of education) this may be done on a per graduate basis. Capital cost estimates for a given time period can conveniently be calculated on a per place basis that is, new facilities needed for additional pupils. The basic capital costs may warrant some explanation. The two different costs may indicate historically the growth of the education system in the country, but then they are based on different facttors. For instance, recurring costs refer to the running of the existing educational establishments as a result, so to speak, of capital outlays made in the past, which are dependent on the proposed expansion of the education system and are more of investment in plant for future use. Present capital outlays will, however, require future recurring expenditure and the ability and willingness of a country to provide this fund must therefore figure in the financial decision.

As teachers' salaries constitute the main element of recurrent costs (see Table 6.2) it is vitally important to consider how the returns on this expenditure could be maximized. One of the strategic uses of cost analysis is in choosing among alternative approaches to teacher training and to upgrading the quality and effectiveness of existing teacher force.

TABLE 6.2

Teacher costs in 15 countries (as percentage of total recurrent costs)

Country	Level	Year	Salary Costs as % of Recurrent Costs
Argentina	Higher	1964	52
Brazil	Middle	1967	96
Burma	All levels	1965	22
Ceylon	Levels I & II	1969	81
Chile	Technical	1968	77
Ecuador	All levels	1965	60.5
France	Higher	1967	53
Iran	All levels	1965	81
Ivory Coast	Primary	1967	89.5
Madagascar	Primary	1966	84
Morocco	Secondary	1968	98
Netherlands	Compulsory	1964	67
Thailand	Vocational	1964	65
Turkey	All levels	1967	73
Uganda	Secondary	1967	72

Source: IIEP, quoted in Coombs and Hallak op. cit., p. 166.

TABLE 6.3

Total public expenditure on education as a percentage of the gross national product (GNP)—24 countries

Country	1970	1975	1976	1977	1978	1979	1980	1981	1982
Developing countries									
Afghanistan	1.1	1.3	1.5	..	1.7	1.9	2.0	..	..
Bangladesh	..	1.1	..	..	1.7	1.5	1.7	1.7	..
Burma	3.1	1.7	1.6	1.6	..	..	..	..	..
Fiji	4.2	4.7	5.2	5.8	6.1	5.3	5.1	5.8	..
India	2.8	2.8	3.0	3.1	3.2	3.2	2.9	2.0	..
Indonesia	2.8	3.0	..	..	..	1.6	1.9	2.2	..
Iran, Islamic Rep. of	2.9	..	5.7	..	..	..	..	..	..
Korea, Rep. of	3.6	2.2	3.0	2.7	2.7	3.4	4.0	3.5	4.3
Malaysia	4.4	6.3	..	..	..	5.7	6.3	7.0	7.6
Maldives	2.3	0.7	0.6	..	0.6	..	..	..	..
Nepal	0.6	1.5	1.5	1.6	1.6	1.6	1.8	1.9	2.5
Pakistan	1.7	2.2	2.1	2.1	2.1	2.0	1.8	1.9	..
Papua New Guinea	4.5	..	7.7	..	6.4	4.7	..	..	..
Philippines	2.6	1.9	1.7	1.7	2.2	1.9	1.6	1.9	2.0
Samoa	7.3	5.9	6.2	..	..	..	..	..	..
Singapore	3.1	2.9	2.7	2.5	2.5	2.7	3.0	3.7	4.5
Sri Lanka	4.0	2.8	2.7	2.4	2.5	3.0	3.1	3.0	..
Thailand	3.5	3.6	3.9	3.8	3.5	3.2	3.3	3.7	3.9
Tonga	..	2.8	6.7	4.6	..	..	3.2	3.4	..
Turkey	2.9	2.9	..	..	5.4	3.6	..	2.7	2.9
Developed countries									
Australia	4.2	6.2	6.3	6.5	6.1	5.9	5.9	5.8	..
Japan	3.9	5.5	5.5	5.6	5.8	5.8	5.9	6.0	..
New Zealand	4.6	5.6	5.2	5.5	5.5	5.0	5.5	5.3	..
USSR	6.8	7.6	7.5	7.4	7.3	7.3	7.2	7.0	6.7

Source: Statistical Digest for Asia and the Pacific, 1984 Unesco/ROEAP, Bangkok

There is, however, no common assumption appropriate for all countries as to what is likely to happen to teacher salaries in the coming plan period. "Teacher costs ... live in a highly dynamic world, and to project them with reasonable accuracy the cost analysts' assumptions must be just as dynamic."

Capital costs deserve the careful attention of the educational planner for several reasons: (i) Capital outlays usually involve large lump-sum expenditures, raising special financing problems in the educational plan. Borrowed capital funds must later be paid back with interest, thus mortgaging future revenues for years to come. (ii) Apart from debt services, the creation of additional facilities increases future operating revenues ; the cost of using and maintaining a new educational facility often equals its initial capital cost every three to five years. (iii) The layout and location of new facilities can impose severe constraints on educational technologies and logistical patterns in years ahead, thereby inhibiting needed changes and innovations and perpetuating old inefficiencies. (iv) The planning of new facilities provides a strategic occasion for maximizing the utilization of both existing and future facilities, which is a major key to improving overall educational efficiency and holding down costs. (v) The creation of new facilities for new programmes in any one sector of the educational system has major repercussions including cost impacts, on other sectors. Unless these are identified, assessed and provided for in advance, the new programme may later create severe difficulties elsewhere and encounter setbacks. "For all these reasons, educational planners and managers need sharp eyes and sharper pencils when dealing with capital costs"[3].

Improved cost analysis, thus will help the planner considerably but costs standing alone have limited value for the planner or the decision maker[4]. It is only when costs are juxtaposed with educational objectives, outputs, and ultimate benefits that the performance of an educational process can be intelligently assessed and rational choices made among alternative ways to improve it.

TABLE 6.4

Total public expenditure on education as a percentage of total government expenditure—21 countries

Country	1970	1975	1979	1980	1981
Developing countries					
Afghanistan	..	..	14.3	12.7	8.8
Bangladesh	..	13.6	7.0	8.2	8.6
Burma	17.9	15.3	..	..	..
Fiji	15.6	19.5	..	..	11.3
India	10.7	8.6	10.4	10.0	9.6
Indonesia	..	13.1	9.1	8.9	9.3
Iran, Islamic Republic of	9.6	..	..	15.7	13.1
Korea, Republic of	21.4	13.9	18.8	23.7	18.7
Malaysia	17.7	19.3	19.1	16.4	..
Nepal	6.7	11.5	8.3	..	..
Pakistan	4.2	5.2	4.6	5.0	5.1
Papua New Guinea	13.2	..	14.2	..	..
Philippines	24.2	11.4	11.9	10.3	..
Singapore	11.7	8.6	8.1	7.3	8.5
Sri Lanka	13.6	10.1	8.0	8.8	8.7
Thailand	17.3	21.0	18.8	20.6	20.3
Turkey	13.7	..	..	1.5	..
Developed countries					
Australia	13.3	14.8	15.0	14.8	14.5
Japan	20.4	22.4	20.1	19.6	19.4
New Zealand	..	17.1	13.5	14.5	..
USSR	12.8	12.9	11.6	11.2	10.9

Source: Statistical Digest for Asia and the Pacific, 1984 Unesco/ROEAP, Bangkok

NOTES

1. Lyons, R.F. (ed.) Problems and Strategies of Educational Planning: Lessons from Latin America, UNESCO: IIEP, Paris, 1965, pp. 88-91.
2. For elaborate theoretical concepts and methodologies of educational cost analysis, the following books are very useful for the planner: Vaizey, J., and Sheehan J., Resources for Education, London, Allen and Unwin, 1968.

   Vaizey, J., and Chesswas, J.D., The Costing of Educational Plans, UNESCO: IIEP, Paris, 1967.

   Hallak, J., The Analysis of Educational Costs, UNESCO: IIEP, Paris, 1969.

   Chesswas, J.D., Methodologies of Educational Planning for Developing Countries, 2 Vols. UNESCO: IIEP, Paris, 1969, UNESCO: IIEP, African Research Monographs, Nos. 1, 2, 4, 10 and 15.

   Cumming, C.E., Studies in Educational Costs, Scottish Academic Press, Edinburgh, 1971.

   Coombs, P.H. and Hallak, J., Managing Educational Costs, Oxford University Press, 1972.
3. Coombs, P.H. and Hallak, J., Ibid., pp. 199-200.
4. The IIEP case studies (27 studies) under the title "Educational Cost Analysis in Action: Case Studies for Planners" illustrate the diversity of uses to which cost analysis can be put in educational plans.

CHAPTER 7

THE PLANNING PROCESS : A SUCCESSION OF STAGES

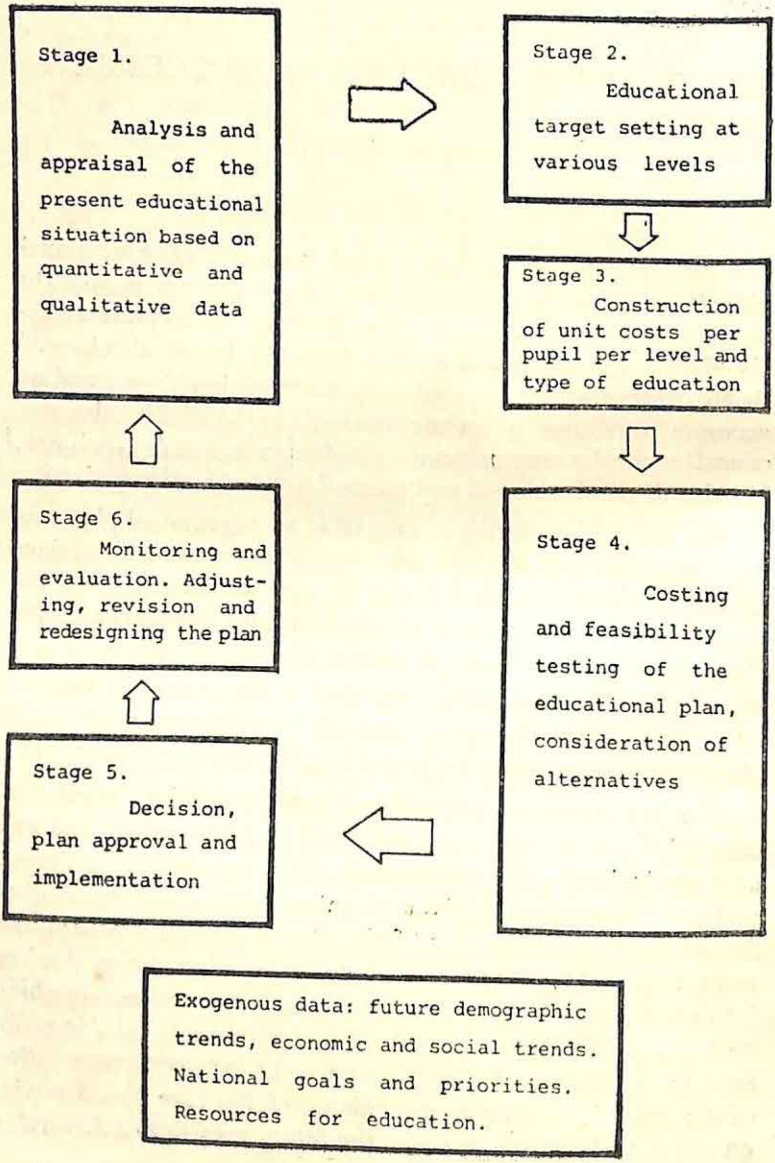
The theoretical and methodological concepts of educational planning provide the necessary tools to the planner in order to identify and establish the choice based on an accurate analysis of what is possible and what is desirable. It may also be said that the preparation of an educational plan should be based on accurate directives given by the political authority, because educational planning not only involves a design for decisions, but also demands the will and the authority of implementing it.

The practical processes of preparing an educational plan may be a complex and difficult task depending on such conditions as the tradition of planning, the strength or weakness of the statistical services, the level of administrative development, the characteristics of the school system (public, private, etc.) and other variables. However, a sequence of stages may be suggested to be followed in the process of preparing an educational plan. The stages are shown in a schematic diagram (figure 7.1).

The first stage is an analysis and appraisal of the present educational situation, based on the stock and flow of teachers and students by level and type of education having both quantitative and qualitative aspects of the education system and such other factors as the existing size of classes and schools, teacher/pupil ratio, unit cost per pupil by level and type of education (broken into capital cost, recurrent cost, teacher cost and non-teaching cost, etc.). The phase serves (i) to highlight the existing problems to be tackled in future proposals, (ii) to trace the evaluation of the growth, dynamics and balance of the educational service on which to base estimates for the future growth and flow rates,

(iii) to give an up-to-date picture of the base from which future development must start.

Figure 7.1: STAGES OF PREPARING EDUCATIONAL PLAN: A SCHEMATIC REPRESENTATION


Stage 1.
Analysis and appraisal of the present educational situation based on quantitative and qualitative data
Stage 2.
Educational target setting at various levels
Stage 3.
Construction of unit costs per pupil per level and type of education
Stage 4.
Costing and feasibility testing of the educational plan, consideration of alternatives
Stage 5.
Decision, plan approval and implementation
Stage 6.
Monitoring and evaluation. Adjusting, revision and redesigning the plan
Exogenous data: future demographic trends, economic and social trends. National goals and priorities. Resources for education.

The second stage of setting targets follows in fact largely from the first stage. The exogenous data (shown in the diagram) on the future demographic trends, on the future needs of the economy for skilled manpower, as well as on the future trends in social demand, also exert considerable influence on this task of target setting. The targets as we have discussed earlier must relate to qualitative and quantitative trends which again must be a choice between alternatives and assessment of consistency and feasibility.

The third stage consists of constructing a set of unit costs in order to test the feasibility of the targets. This calculation of the quantitative implications of the targets in terms of resources in fact leads logically to the next stage which consists of costing and feasibility testing of the educational plan. The cost of the plan should be estimated by drawing certain distinctions, for example, between sources of finance, between the cost specific to the targets of the plan and other costs, so as to make it clear what proportion of the expenditure may be the subject of policy options. This is a crucial test of whether the targets are realistic or not. If alternative methods fail to make them realistic they may have to be modified and re-tested.

The fifth stage is of decision and implementation. As sequence of stage four the final decision is reached and the move from planning to action begins.

The sixth and the last stage consists of evaluation and revision of the plan. The educational planning process does not end the moment the plan is adopted. On the contrary, the authors of the plan must watch its execution closely. Educational planners must be directly involved in the periodic evaluation of the various phases of the plan, mainly for two reasons: "first of all, because planning calls for periodic adjustments to new circumstances, and only the day to day experience can establish feasible and realistic solutions ; second, because planning involves a constant search for new and better techniques for subsequent plans that must be drafted in the light of the results of the preceding plan"[1].

The stages considered here may not be the same or similar in all developing situations that the planner may confront with, but with some modifications they may be conveniently applied to a broader context of educational planning.

NOTE

1. Economic and Social Aspects of Educational Planning: UNESCO, Paris, 1964, pp. 95-96.

CHAPTER 8

SOME CONSTRAINTS ON EDUCATIONAL PLANNING

We have said that soundness of an educational plan can only be verified by its proper implementation, for it is in implementation that the effectiveness of a plan may be ultimately determined and that changes sought may be measured with relation to goals. Thus, although the developing countries are more enthusiastic about planning their education, there is continuous evidence that in many instances the plans are very poorly implemented ; while in some cases, however well intentioned they could not be implemented at all. It would be again unrealistic to enumerate, at this stage of educational planning, with any rigour, the necessary conditions for the success of an educational plan. The presence of the favourable conditions may not guarantee the successful implementation of a plan. Educational planning, above all, is an attempt to apply reason to the process of educational change and development. Planning introduces rationality to the extent that it allows a nation to achieve optimal use of human, material and financial and other resources in meeting educational objectives and, at the same time, to achieve effective coordination between education and other types of national development.

We therefore propose to point out here some of the constraints which are very common in developing countries on the successful implementation of educational plans.

Political constraints

This is a common phenomenon in developing countries. Political constraints arise normally from the failure to distinguish between the political and the technical aspects of educational decisions. To a great extent such failure follows from the inability to diffuse the power to make political and technical decisions with the result it resides entirely with one position (usually the education minister) or a small number of positions at the top of the power hierarchy. One of the most distressing results of the fusion of political and technical decisions is the lack of clear educational policies. There is virtually little distinction made between those educational objectives which are politically derived and which are consequently subject to technical alternation. This confusion between political and technical decisions plagues the educational planner in determining not only his area of competence but also the ways in which his work is to be used. In particular, the planner in developing countries often finds that the alternative means by which to achieve educational objectives are not treated as alternative techniques to be judged on the basis of technical criteria, but that they are treated as alternatives which are politically desirable. The most common instance is the school construction programme— often the location of schools is determined on political patronization rather than on such technical grounds as concentration of school-age populations, location and size of existing schools and transportation facilities ; and the planner is only instructed to devise specific construction programmes. Thus "it is not rare to find planners given the responsibility of putting the technical 'trimmings' on plans which have already been determined politically, that is on plans whose objectives and means have been determined on political grounds"[1].

Administrative constraints

The formulation and development of an educational plan is a technical process, but the implementation of the plan is an administrative process. But as it happens, there is no clear line of responsibility and authority to allow boundaries between the two areas to be established and maintained.

Plans for educational change and development require for their implementation an administrative system which has resources and capabilities to admininster the steps necessary for change and development. This calls for the pre-existence of an efficient administrative system which has not only been able to administer effectively the present system, but also to implement change wherever and whenever it is necessary.

This is more evident in countries having centralized educational authority (which is the case in most developing countries). The central educational minister embodies in himself, theoretically, absolute over-riding power over the educational enterprize and all the matters, from the curriculum design to the hiring of teaching personnel, are decided ultimately within the ministry. In some countries this centripetal force is countered by two centrifugal factors ; an inadequately developed civil services and the semi-autonomy of ministerial decisions.

As a result, the educational bureaucracy is lethargic ; where change is not only unwelcome, but it is resisted. In order to implement the educational plan, the planner is thus confronted with the task of activating a listless and inert bureaucracy.

Administrative difficulties are further compounded in the countries where the education ministry harbours a group of semi-autonomous divisions. Each of these divisions is responsible for some vertical or horizontal function of the educational system with little means of effective co-ordination among the divisions. Absence of administrative co-ordination thus poses a big hurdle on the way of successful implementation. One of the major constraints on educational planning has been attributed to this lack of co-ordination in administrative structure. Added to this administrative incapacity is the fact of 'fragmented educational system'. Because in most developing countries of Asia the central educational authority only ecompasses the public, primary and secondary and some post-secondary education. Such authority has little direct control over private secondary, post-secondary education or over the universities. In most countries there is no adequate means by which private education may be brought into planning activities. Equally important is the fact that the forces which want to resist the changes envisaged in an educational plan may do so by using the escape route to private education. The universities in developing countries which tend to cherish and jealously guard the concept of academic freedom and university autonomy set their own targets, curricula and spend the grant from the government the way they think fit. Thus the absence of effective co-ordination between the universities and the planning authority causes another administrative constraint in educational planning in many developing countries of Asia.

The result is that in many countries "the administrative constraints on success in educational planning have tended to limit both the extent to which planners can develop integrated, comprehensive plans and the extent to which they can rely on an administrative system, adequately organized and co-ordinated to implement plans"[2].

Data and information system

We have touched upon this in the chapter on statistical data. However, this constraint is a very common one, due to three reasons: absence of relevent data, inadequate data (hence the rest could be guesswork) and inflated or wrongly framed data. Any one or even all three in some cases could impose a major constraint on the formulation of effective educational plan. But when the educational plan moves from the planning to the implementation stage there must be some adequate and well functioning information system in order to monitor its progress at every step of the way and identify the bottlenecks so that necessary adjustments can be made in the plan. This is a common experience of the developing countries that due to the malfunctioning of their information and data collecting system, many important phases of their educational plans were frustrated. For instance, if the planner moves from successful school construction programmes to programmes related in content or in techniques, much will depend on his skills in handling existing data, information and research. It is doubtful whether the generation of new data and technique will have much impact unless there is prior or simultaneous development of creative uses of existing data which might have served as a foundation upon which to build new data collection and technique.

Mention may be made about the introduction of data from abroad, which are often done in educational planning in order to supplement local data, but it must be understood that the value and effectiveness of such data depends on their contiguity with the existing data.

Adequate financial and real resources

In fact these are the common constraints to be found any where in the developing and developed world. However, for obivous reasons, these are more pronounced in the former than in the latter world. The major problem in financial resources during the implementation stage is whether a rational balance exists between the amount of money that is going to be needed and the money that is available. Many developing countries, in the process of their plan implemntation, suffered an imbalance between those two, which consequently nullified some of their important educational programmes.

The shortage of teachers, books and classrooms resulting from physical limitation on the nation's supply of qualified manpower, land construction capacity, printing facilities, etc., are the real resources that may easily impede the progress of an educational plan. In many instances these rather than the money were the real constraints on the successful implementation of a developing nation's education programme.

Thus the foregoing factors taken together constitute a framework of constraints that ultimately determines how well or how poorly a given educational plan comes to be implemented. At any given time any one or more of these factors may be the principal constraint. Hence the planner's task should be to try to anticipate where the greatest obstruction will come and try to recommend the corrective measures. This, however, leads us again to the beginning of our query, for how many of his recommendations would be accepted may lie well outside his authority.

NOTES

1. Unesco: IIEP, Fundamentals of Educational Planning No. 12, p. 19, 1969.
2. UNESCO: IIEP, Fundamentals of Educational Planning 12. op. cit.

Apendix I

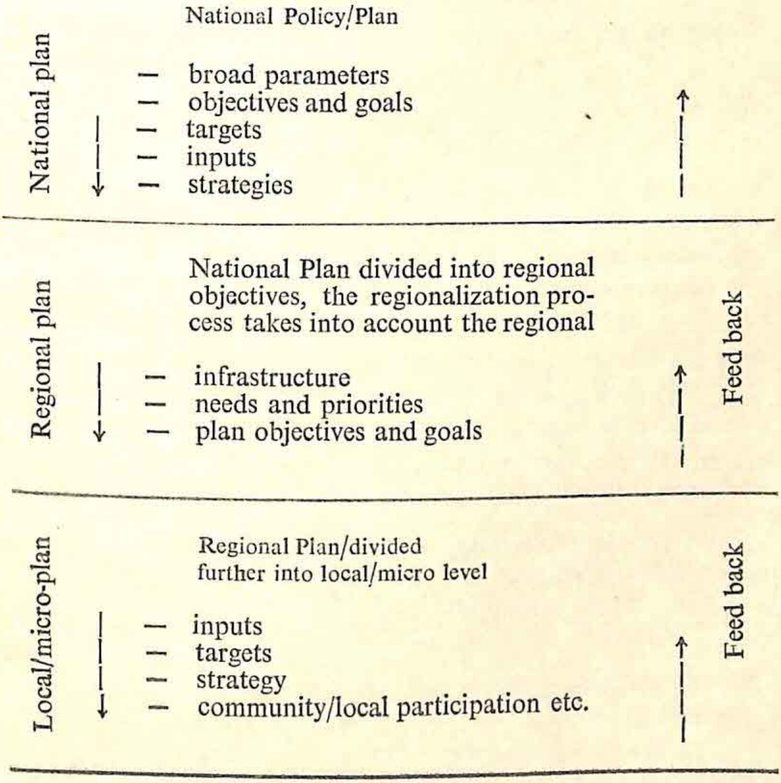
A note on micro-planning

Often a national educational plan or project is infact the sum total of a large number of sub-projects spread throughout the country and therefore the degree of success of the national project is dependent on the level of success of the sub-projects both in quantitative as well as qualitative aspects. The efficiency with which the task of planning and implementation of the component projects or sub-projects is carried out largely determines the success at national level. This is central to the concept of micro-planning. The national or macro-plan is the aggregate of the educational requirements of the country. The task of micro-planning is to break down the national plan into district or sub-district levels. Micro-planning seeks to ensure rationality in the distribution of educational services, adoptation of these services to the needs of the local community and an efficient utilization of available resources. Micro-planning is linked with educational mapping which is a set of techniques used to establish the existing scenario and identify future educational requirements at the local level and suggest measures to meet these requirements, Educational mapping, also known as school mapping is therefore an useful tool for micro-planning.

The process of micro-planning

Successful planning and implementation is a two-way process. The macro or national goals and objectives are translated into the micro-level implementation as much as the micro level conditions, needs and requirements must provide the appropriate feedback to develop the macro-objectives and targets. In this process the national plan and its goals and objectives may be regionalized to take care of different broad regions or provinces which are supposed to be covered by the national plan. After the regionalization the plan may be further divided into small components at the implementation level. This is the last level in the tier where not only the strength of the national plan is tested but that necessary feedback on the quality and quantity of implementation process, is provided for national level monitoring. The micro-data is fed into the national/micro plan both during the process of its formulation as well as implementation. The arrows in the diagram indicate the nature of this two-way communication viz centre level planners and local level implementors (as well as planners) must talk to each other in order to successfully develop and implement the national educational plans viz, universalization of primary education or expansion of secondary school system in the country.

The process of micro-planning



National plan

National Policy/Plan

- broad parameters
- objectives and goals
- targets
- inputs
- strategies

Regional plan

National Plan divided into regional objectives, the regionalization process takes into account the regional

- infrastructure
- needs and priorities
- plan objectives and goals

Feed back

Local/micro-plan

Regional Plan/divided further into local/micro level

- inputs
- targets
- strategy
- community/local participation etc.

Feed back

Advantages of micro-planning

- helps removing regional disparity
- increases equity/equality of access
- improves implementation capacity of nationalplan
- improves efficient use of resources
- increases the chances of success through local participation

Examples of micro-planning in education

- universal primary education programme
- expansion of secondary education system
- large scale literacy programme

Appendix II

Educational planning : some definitions and terminology

I. Dror's definition of planning

"The process of preparing a set of decision for action in the future directed at achieving goals by optimal means."

—Y. Dror in 'International Review
of Administrational Sciences',
Vol. 29. (1963).

The definition emphasises a number of key aspects of planning as follows:—

The process	— an on-going activity not once-for-all or static.
of preparing	— approval and implementation of plans are logically separate from although closely related to, preparing them.
a set of decisions	— planning involves not just decision-making, but sets of decisions which are related and must be made in a consistent manner.
for action	— planning must be oriented to action, otherwise it is merely analysis or theorising.
in the future	— planning involves present decisions whose implications lie in the future.

directed at achieving goals — planning is directed towards conscious objectives.

by optimal means — choice is necessary to make the best use of scarce resources.

NB. For further discussion see C.A. Anderson and M.J. Bowman 'Educational' Planning in Developing Countries' reprinted in M. Blaug 'Economics of Education Vol 1'.

II. Other definitions

"To plan is to choose"

— title of Tanzanian Government national education campaign.

"(Planning) is, in essence, an organised, conscious and continued attempt to select the best available alternatives to achieve specific goals."

— A. Waterston 'Development Planning: Lessons of Experience'.

"Educational planning...is the application of rational, systematic analysis to the process of educational development with the aim of making education more effective and efficient in responding to the needs and goals of its students and society."

— P.H. Coombs, 'What is Educational Planning?'

Educational planning is the exercising of foresight in determining the policy, priorities and costs of an educational system, having due regard for economic and political realities, for the system's potential for growth, and for the needs of the country and of the pupils served by the system."

— C.E. Beeby, 'Planning and the Educational Administrator.'

"Educational planning. ... involves identifying objectives and available resources, examining the implications of alternative courses of action and choosing wisely among them, deciding on specific targets to be met within specific time limits, and finally developing the best means of systematicallly implementing the choices thus made. (It) is much more than the drafting of a blueprint; it is a continuing process."

— UNESCO "Educational Planning: A World Survey of problems and prospects'.

III. Terminology

Despite much disagreement about terminology the following is a list of the main concepts involved in the planning process.

Activity	The action taken (training staff, preparing reports, etc.) to transform inputs (funds, training facilities, expert services) into outputs (trained staff, reports prepared, etc.).
Appraisal	The critical assessment of the relevance, feasibility and potential effectiveness of a project/programme prior to making a decision whether to undertake it.
Constraints	Factors which limit the planner's freedom to choose particular courses of action. They may be fixed and unalterable, or they may, to a greater or lesser degree, be themselves subject to changes as a result of specific policy choices and actions.
Effectiveness	The extent to which a project/programme is successful in achieving its objective(s).
Efficiency	The "productivity" of the implementation process—how economically inputs are converted into outputs and achievement of objectives(s).
Evaluation	The process of comparing project/programme objectives with results, employing methods which reduce dependence on subjective judgement, in order to assess the extent to which

	these objectives have been or are being achieved, and to analyse the reasons for any discrepancy. Such evaluation may be *interim* (of continuing projects) or *ex post* (of terminating or completed projects).
Follow-up	Actions taken or scheduled in order to utilise information gained or lessons learned from the monitoring or evaluation process.
Implementation	The process of translating plans into action.
Inputs	Goods, funds, services, personnel, and other resources provided with the expectation of undertaking specific activities, producing outputs and achieving objectives.
Means	The various ways of combining inputs and technology to achieve specific outcomes.
Monitoring	Continuous or periodic surveillance of the physical implementation process to ensure that input deliveries, work schedules, out-puts and other required actions are proceeding according to plan.
Objectives/ Goals	Purposes towards which the educational system is to be directed by the planning process.
Outputs	The specific products, in terms of type and magnitude, that can reasonably be expected to be produced by the project team with the inputs provided and activities undertaken.
Policies	Guidelines for action which result from the making of choices about priorities among objectives and about the means to be used to achieve them.
Priorities	The ordering of objectives in such a way that, given various constraints a basis for choice is laid where objectives are inconsistent or in competition with one another.

Programme	A group of projects or services directed toward the attainment of similar or related objectives.
Project	A planned undertaking, a unit of management, designed to achieve certain specific objectives within a given budget and within a specified period of time.
Relevance	The degree to which the rationale and objectives of a project/programme are, or remain, pertinent, significant and worth while in relation to the identified priority needs and concerns.
Strategy	Framework for specific policies which is intended to keep them reasonably well-balanced and integrated, well-timed, properly weighted and headed in the right direction.
Targets	Specific educational outcomes that it is intended the educational system achieve in order to facilitate movement towards its objectives.
Target group	The population for whose benefit the project is undertaken.

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For centuries educational ideas and practices have been transferred from one country to another through missionaries, imperial governments, world organizations and voluntarily as a result of the work of administrators anxious to improve their own system of education.

This book introduces the reader with the major theories, concepts and methodologies of educational planning in the context of developing Asia-Pacific region and provides essential guidelines in order to draw a viable educational plan.

A major theme of the book is to say that educational planning is not an isolated event; in order to be effective it must be related to the overall national plan of the country and that it must be able to express and achieve the aspirations of a developing nation.

The book divided into eight chapters will be extremely useful to educational professionals and practitioners in the field.

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